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SOCIETY of VICTORIA

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The ENTOMOLOGICAL SOCIETY of VICTORIA

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's bi-monthly journal, the "Victorian Entomologist". Excursions are arranged to areas of topical interest at intervals, mainly during the warmer months. Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings for 1971 will be held at Clunies Ross House, National Science Centre, 191 Royal Pde., Parkville, at 8 p.m. sharp, on the second last Friday of even months, commencing with the Annual General Meeting in February. Visitors are always welcome.

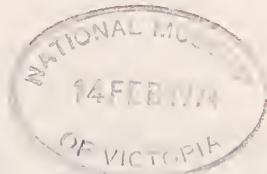
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(Associate members do not receive the journal.)

The statements and opinions expressed in articles herein are the responsibility of the respective authors, and do not necessarily indicate the policy of the Society.

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Diary of Coming Events

February 15th., 1974: ANNUAL GENERAL MEETING. 8 p.m. sharp, at Clunies-Ross House, 191 Royal Parade, Parkville. The meeting will conclude with the screening of two films: "Dung Down Under" and "Current Research Activities in the Division of Entomology, C.S.I.R.O.

April 19th., 1974: GENERAL MEETING. Speaker will be Mr Charles McCubbin who will give an illustrated talk on his experiences in the Simpson Desert.

June 21st., 1974: GENERAL MEETING. Speaker: Mr D.L. Jones, Horticultural Research Officer with the Dept. of Agriculture. Subject, the pollination of orchids by insects.

COUNCIL MEETINGS

Dates for 1974 Council Meetings to be at the discretion of the incoming council.

EXCURSIONS

A repeat visit to the Inglewood mallee and Whipstick scrub is planned for late this month. Date to be fixed at the Annual General Meeting.

EDITORIAL

In recent years there has been a great increase in public awareness of the need for conservation, not only of individual animal and plant species, but also of habitats. This awareness has come about only now that a number of species have already become extinct and many others are seriously threatened. Most people tend, however, to confine their attention to higher animals and the more spectacular plants, largely ignoring the less obvious elements of the fauna and flora. Thus it is very important that people with knowledge of these more neglected groups should work actively for their conservation.

One such group is undoubtedly the insects. The chief threat to survival in Australia is the destruction of habitat, which is occurring at an alarming rate all over the continent. An additional threat, however, is over-collecting of rare or local species. Fortunately we are relatively free in Australia of commercial collectors who think nothing of wiping out a population of a rare species in order to line their pockets. But even the amateur collector who takes insects purely for his private collection can seriously endanger a population of a rare species; and there are signs that this may be happening to some of our Victorian butterflies.

It is very heartening, therefore, to see that our society is showing more interest in the conservation of the Victorian insect fauna. The placing of restrictions on the collecting of Ogyris stanes and O. idmo halmaturia in Victoria is the first step to have been officially taken by the Society, and it is to be hoped that these restrictions will be observed by all members. It is desirable that a close watch be kept on the numbers of these species, and indeed of all uncommon insect species, in the known habitats; furthermore, extensive surveying of likely areas should be done in the hope of locating more colonies of rare species before they are destroyed by development.

Most important of all, we must find out just what the threatened species are, and take steps quickly to ensure their survival. This action could take either of two forms: the Society could make submissions to the government to have reserves proclaimed, or a fund could be set up within the Society for the purchasing of small areas to be owned by the Society and treated as private reserves.

Whatever we do, it must be done soon, for time is running out.

Reports & Notices

MINUTES of the GENERAL MEETING: Friday, December 14th., 1973,
held at Clunies-Ross House.

Mr C.W. McCubbin chaired the meeting, which was attended by some 25 members and friends, the reduced attendance due in part at least to the exceptionally hot, humid evening. A special welcome was extended to Messrs. Vin. Salamitri and Peter Christy, both new members attending for the first time, and to Mrs M.J. Smith, "Banjora" of the "Weekly Times". Apologies were received from Messrs A.D. Bishop, S. McEvey, W. Franzke, J.F. Hutchinson, D.E.A. Morton, A. Neboiss and Miss Helen Malcolm.

Mr D.F. Crosby moved that the minutes of the previous meeting, as published in the December journal, be accepted. Seconded by Mr J.C. Le Souëf. No business arose directly from these minutes. Members were invited to consider nominations for 1974 Office-bearers for presentation at the February Annual General Meeting.

CORRESPONDENCE was received from Murray S. Upton, CSIRO Division of Entomology, Canberra, with a further note in relation to MERCURY VAPOUR LAMPS, and from the Australian Entomological Society regarding CUSTOMS REGULATION No. 13a restricting export of ENTOMOLOGICAL SPECIMENS.

In regard to the latter item, Mr. McCubbin read from the News Bulletin of the Australian Entomological Society a postscript entitled "Insects, Science and the Law". The matter was discussed at some length, and a motion proposed by Mr D.F. Crosby, that we reassure the A.E.S. of the backing of our Society in any action they may take, was seconded by Mr J.C. Le Souëf.

The TREASURER reported a balance of \$131-17 with 90 financial members. In the absence of the EDITOR, Nigel Quick gave a brief report on behalf of the Publications Committee, detailing existing paper and stationery stocks, the proposed production of less costly covers for 1974, the preparation of a draft to enable the incoming Publications Committee to streamline production of the Journal, and the need for new articles, notes and papers for publication. Investigation of costs of production of satisfactory car stickers proved this project to be uneconomic at present membership levels.

In lieu of having stencils prepared commercially, which would almost certainly necessitate a rise in subscriptions, an invitation was extended to the meeting for six volunteers, each to prepare stencils for one edition of the Journal. Messrs R. Besserdin, J.C. Le Souëf, C.W. McCubbin, A.D. Bishop

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(who had earlier indicated that he may be in a position to do so) and W.N.B. Quick, have to date offered their services.

Mr Le Souëf reiterated the need for lapel name-tags at all meetings, the more necessary as membership swells. Mr McCubbin undertook to arrange provision of these. Additionally, Mr Le Souëf drew attention to the fact that 'The Whipstick' generally refers only to that area in the Huntly-Bagshot area roughly north of Bendigo, and not to somewhat similar areas near Inglewood, referring in particular to the report in Vol. 3 : No. 6 of the Victorian Entomologist.

Mr J.F. Hutchinson, Hon. Librarian, was absent interstate, and unable to accept the donation of a number of reprints of articles (Lepidoptera) by Norman B. Tindale from Mr D.F. Crosby. These were gratefully taken in hand by our President for addition to the Library. It was suggested that the Caretaker of Clunies-Ross House be approached regarding the provision of locker space for housing what is now becoming a rather bulky and comprehensive collection of reference papers and books.

Mr McCubbin requested that insect lists for the Big Desert Survey be handed or forwarded to him at the earliest possible moment, and collections of unidentified material loaned to the Entomology Dept. at the National Museum, for inclusion in this project.

EXCURSIONS: Owing to lack of support, the proposed excursion to the Suggan Buggan area has had to be abandoned.

The meeting place for the extended trip to east Gippsland was discussed. Mr R. Manskie suggested that the Caravan Park at Marlo may be the most suitable. Details of times and collecting areas accessible from this point were to be available from Nigel Quick.

EXHIBITS: A fine array of material was on display at the meeting, a notable feature being the outnumbering of the Lepidoptera by both Hymenoptera and Coleoptera. Ray Besserdin had on display his entire collection of Hymenoptera, an Australia-wide collection including primary and secondary gall-wasps, large spider-hunting wasps, bees, cuckoo-wasps, ichneumons, sawflies and ants. Mr J. Wainer produced a neatly-presented representation of Coleoptera mainly from flowers, under bark and under logs. Little is known of the early stages of many of these insects. Mr. G. Burns' had on display Coleoptera of the Inglewood (V.) area, a notable inclusion being a small, white Curculionid. Peter Holbery, a junior member, and one of the few working on Orthoptera, presented a collection of Victorian grasshoppers, amongst which was included the spectacular alpine grasshopper. Mr Bob Condon brought a substantial representation of insects, mainly Colcoptera and Lepidoptera, from both the Little and Big Desert areas. The specimens exhibited by Mr D.F. Crosby, basically Butterflies

of the Big Desert, also included a specimen of Candalides goodingi (now referred to as a race of C. consimilis) taken near Labertouche, V. This rare species has appeared sparsely through southern Victoria east of the Dandenong Range. Most noteworthy of the Desert insects included was Ogyris otanes, demonstrating most conclusively the distinction between reared specimens from this area and those from Kangaroo Island.

Amongst other matters discussed at the meeting was the desirability and/or effectiveness of placing voluntary restrictions on the capture and rearing of a butterfly, Ogyris otanes, from the Big Desert. Lacking any government action in affording this species the protection it appears, on present indications to require, this action appears to be as far as the Society can carry the matter. With an extension moved by Mr J.C. Le Souëf to include in addition Ogyris idmo within Victoria, this action met with the approval of the meeting.

Mr Peter Carwardine made a brief mention of the exceptionally lengthy period the butterfly Papilio anactus has remained in the pupal stage. Mr Ray Manskie reported having knowledge of a somewhat similar situation in the Cheltenham area.

The meeting was closed rather earlier than is usual in order that members might partake of the supper so very adequately provided by what has almost become our 'Ladies' Auxiliary'. Cool drinks and coffee were obtained from the facilities within Clunies-Ross House, and our President despatched several junior members to obtain milk and biscuits from a nearby shop. Members are indebted to all the above for making the evening such an enjoyable finale to our year.

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Over the last twelve months, production of our Journal has been beset by many problems, not the least of which has been to keep production costs, and hence subscriptions, to a minimum. In this regard, the Publications Committee and Editor trust that they have, to an acceptable degree, succeeded. As with most publications of this nature, this has been due not only to careful planning, but to a great deal of voluntary labour, and many miles of travel. The Council Members and members of the Publications Committee appear also to have contributed the greater bulk of material for publication. It is to be hoped that, in the ensuing year, members as a matter of course, keep alert for any material which may have been missed by others, or which may be of general interest. A final blow has been the world shortage of paper and allied materials. At this stage there is no sign of availability of board for our covers, and should none materialise the Publications Committee apologise in advance for whatever substitute it may be necessary to employ.

Postal costs continue to rise, and while we still manage to juggle the number and weight of postings to retain bulk-posting facilities, the insistence of the Postmaster-General that twice seven is fifteen, and that one ounce, formerly containing 28.5 gms. now contains only 25 gms., makes the situation no easier.

In all fairness to a future Publications Committee, it is felt that the endless hours spent wrapping and addressing Journals should be abandoned as far as possible, and with this in view it was decided to mail the Journal in envelopes for 1974, trusting that the additional expense involved will be offset to some degree by the Journals being received in rather better condition.

-ooOoo-

These Butterflies are PROTECTED !

Ogyris otanes C. & R. Felder, in Victoria.
Ogyris idmo halmaturia Tepper, in Victoria.

As reported in the minutes of the December General Meeting, held at Clunies-Ross House, December 14th., 1973, the Entomological Society of Victoria has placed these two butterfly species in a "Limited Voluntary Protection" category.

Obviously, this can be only as effective as the cooperation of our members and readers will allow, and, outside of the Society membership, can not be enforced. In taking this action, we have perhaps created a precedent which may prompt similar action on the part of kindred societies where this is deemed truly desirable.

Observations over a period of three years indicate that the precarious existence of Ogyris otanes in its only known Victorian habitat is seriously threatened. The dangers of over-collecting, so frequently quoted and almost as frequently exaggerated, can not in this case be overlooked. The flight-characteristics and sparse but conspicuous host-plant make the species altogether too vulnerable.

The situation regarding O. idmo halmaturia is somewhat different. While its flight, from earlier descriptions, is similar, the species appears to be carnivorous. Over-collecting may be a danger, but there appear to be no records of positive sightings within Victoria for some twenty-five years.

The recommended restrictions in each case are:

1. THAT NO MORE THAN TWO SPECIMENS BE NETTED BY ANY ONE COLLECTOR WITHIN ANY ONE SEASON.
2. THAT NO LARVAE OR PUPAE BE COLLECTED AT ANY TIME.

The absolute cooperation of all members is requested.

Butterfly Rearing - Obtaining Eggs.

In Volume 3 No. 2 of the Victorian Entomologist, the writer, in conjunction with Mr A.D. Bishop, presented some notes on obtaining eggs from a number of butterfly species. At that time little information was available on the behaviour of the relatively few native Pierids ('Whites' & 'Yellows') and Danaids, when restricted to the confines of a rearing enclosure. The following notes therefore may be taken as a supplement to those previously published, and may assist those entomologists wishing to rear numbers of related species from further afield.

On December 5th., 1973, a female Eurema smilax (Small Grass-yellow) was netted in the writer's garden at Glen Waverley, (V.), and placed in a rearing enclosure with a container-grown plant of Cassia eremophila and a spray of foliage of Cassia australis. The enclosure is a tent-shaped structure measuring 55cm. x 45cm., with a ridge height of 35cm. The base and ends are solid, the base with a circular hole for placement of host plants or container, and one end has a sleeved access hole. The top assembly is hinged to the base to facilitate major rearrangements. The enclosure is covered with 25% shade 'Sarlon' shadecloth, and is normally placed in a sunny position with freely-circulating air.

The butterfly commenced to oviposit within an hour of introduction to the enclosure, showing little tendency to batter itself against the sides. Although eggs were deposited on both species of Cassia, there was a decided preference for C. australis. The enclosure was misted with water lightly several times daily to keep humidity up and prevent overheating. The butterfly was fed at intervals with 1:20 honey-water, administered with a tiny camel-hair brush, a touch on the tarsi of the second or third pair of legs being sufficient to cause the insect to uncoil its proboscis in search of sustenance. Over the course of three days, some thirty eggs were laid. These commenced hatching after 5 - 6 days, but many were lost to predatory Iridomyrmex ants before precautions were taken against their entry. The remaining young larvae were thriving on Cassia australis, but one remaining larva on C. eremophila died in the second instar. In removing the remaining larvae to an area free of ants, they were accidentally exposed to a minute concentration of a pyrethrins-based insecticide, to which they proved extremely susceptible, and were lost.

By sheer chance, a second female insect was spotted in the garden on the 21st. December, settled for the night on a low-growing Baeckea. This was placed in the same enclosure, and treated in an identical manner to the first insect, with the exception that the enclosure now stood on four short legs, each in a pan of water to prevent access by ants. A little more prone to batter against the sides, and perhaps not as meticulous in placement of the eggs exactly on the midrib of a leaflet, this

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second insect, like its predecessor, commenced to oviposit almost immediately. In this instance Cassia australis only was provided as a host plant. The eggs however proved largely infertile, and only two larvae were obtained. These have thrived, and at the time of writing, are pupating, the larval stage thus extending over some eighteen days.

Encouraged by this success in inducing a small species to oviposit, the next step was to see how a larger species behaved. On January 2nd., a female "Wanderer" (Danaus plexippus) was captured, and placed in the enclosure with various host plants. Contrary to expectations, the butterfly was quite able to flutter quietly around, on occasions reduced to walking, while it busily oviposited. Within one afternoon 57 eggs were obtained. After tagging, the butterfly was released. Instead of making off at top speed, as might have seemed reasonable after such indignities as had befallen it, the insect was content to circle a Buddleia for some time, pausing at intervals to feed at the flower-heads, after which it returned to the business of ovipositing all over an Asclepias in the garden. Within the same genus, Mr Bob Condron has had some success obtaining eggs from Danaus chrysippus petilia, the "Lesser Wanderer". In this instance, a female insect captured near Kiata, (V.) was confined in a sleeve over a cut branchlet of Asclepias. Feeding the insect daily, a number of eggs were obtained, but only over a period of some 10-14 days.

Papilio anactus, a remarkably frequent visitor to the garden this year, has on all previous occasions failed completely to oviposit. Neither has it ever been induced to take any food, the insects very shortly appearing distressed, and resting with the wings outspread, although recovering rapidly on release. Such was the case with a further experiment on January 3rd. of this year, although the species is now known to breed locally on young foliage of lemon trees. The constant, often soaring flight of the species might suggest that overheating is the problem. Certainly, in unconfined specimens, the wings are in constant motion when feeding or ovipositing. Should the opportunity for further experiment arise, or should others attempt to induce oviposition, the provision of a constant but gentle draught from a small fan may prove worth a trial.

[†] Species normally or occasionally breeding within the state.

[‡] "Notes on Breeding Victorian Butterflies", Victorian Ent., Vol. 3: No. 2, April, 1973. Pp. 7-13.

W.N.B. Quick

Collecting Lamps - A Further Note.

By Murray S. Upton *

In my earlier warning regarding the ultra violet radiation, or lack of it, emitted by mercury vapour lamps, I referred to the two categories of lamp available. The high pressure mercury vapour lamps which require a choke to operate them, and the "Blended" or mixed light lamps which could be plugged in to any normal 240-volt lamp socket.

The new phosphor coating on the inside of these lamps has caused the important UV radiations (365 nanometers) to be completely cut out of the blended lamps while, for some reason which cannot be accurately determined, only cutting back slightly those emitted from the high pressure lamps.

I have carried out a good deal of market research in the past few months and regret to say that no make of "Blended" or mixed light lamp on the market produces the light which made them so good for night collecting of insects in the past. It would also appear that there is no immediate chance of any change in this situation.

From data made available to me by the major lighting companies, to whom I am indebted, it seems the best available lamp for the collection of night flying insects is the 125 watt High Pressure mercury vapour together with the necessary ballast or choke.

I feel sure that the extra weight we will now have to carry about with us will merely make us appreciate our catch more.

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BUTTERFLIES OF EXPEDITION RANGE, CENTRAL QUEENSLAND.

By Andrew Atkins †

Expedition Range is a 150 kilometre elongated sandstone mountain block 160 kilometres west of Rockhampton and orientated roughly north to south between the Capricorn Hwy. and the Dawson Highway. From the northern-most point, just south of the settlement of Bluff, the range is seen as a series of spectacular escarpments and vertical cliffs rising to about 910 metres, tilting east and gradually diminishing to ridges and hills south-east of Rolleston.

Ludwig Leichhardt discovered Expedition Range on the 27th November 1844, crossing the southern extremity during a private expedition from Morton Bay to Port Essington. In his illuminating journal, Leichhardt (1847) gave adequate descriptions of the area and its inhabitants.

Although isolated somewhat, Expedition Range shares many features with the larger sandstone block centred by the Carnarvon Ranges to the south-west. Like the Carnarvons, there are many palm-lined gorges and deep valleys cut into the sandstone. Waterfalls and permanent springs wind through perpendicular cliffs to reach the Dawson and Comet rivers which feed the vast, 145,000 square-kilometre Fitzroy River catchments. The cool, higher-rainfall zone of the mountain country is occupied by large forests of Sydney Blue Gum (Eucalyptus saligna), Blackdown Stringybark (Eucalyptus sp.) and Rusty Gum (Angophora costata). This is the habitat of the Glider Possums (Petaurus), Wallaroo, (Ospranter) and other marsupials. The Crimson Rosella (Platycercus elegans), King Parrot (Aprosmictus scapularis), and Pied Currawong (Strepera graculina) are common birds of these forests.

Mixed forests of Bloodwood, Ironbark (Eucalyptus spp.) and Acacia favour the stony foothills giving scant cover to Spinifex (Triodia) and other grasses. The higher slopes with well-drained soils make good footing for the Lemon-scented Gum (Eucalyptus citriodora).

The cool elevated plateaux are intersected by sandy gullies and rock pools lined with water-ferns and swamp sedges. Shaded cliffs provide shelter for tree-ferns and Cabbage Palms and other moisture-loving plants. Heath appears on the drier sandy ridges. The luxuriant undergrowth contains typical xerophilous shrubs such as Grevillea, Acacia, Boronia, Leptospermum, Banksia and Prostanthera. Flowering Xanthorrhoea and Eucalyptus attract large numbers of insects, and birds such as the Variegated Wren, (Malurus lamberti) and the White-eared Honeyeater (Meliphaga leucotis) frequent the shrubs and lower canopy of trees.

The climate of Expedition Range varies from cool to mild and generally dry winters to hot summers with frequent storms and monsoonal rain. The forests and particularly the plateau

heath are subject to bush fires during the spring and early summer. These are usually the result of 'burning-off' operations spread from nearby grazing properties.

The first insect collectors in the area were undoubtedly George Barnard and his sons during the late 1800's. The Barnards ran a cattle station at Coomooboolaroo, on the eastern side of the Dawson Range, and spent much of their spare time studying the natural history of the area. A.S. Meek (1913) made his first professional collection of insects, birds and mammals for Lord Walter Rothschild in these ranges near Coomooboolaroo. He was accompanied for part of the time by W.B. Barnard during a three month stay in the mountains in about 1891.

Expedition Range at the elevated northern end really consists of three converging, structurally-related mountains, for it is joined by the Dawson Range from the east and the Shotover Range from the western flank. The junction of these highlands at approximately latitude 23° 45' and longitude 149° 12' forms the bulk of a plateau called the Blackdown Tableland. The following list of butterflies was compiled from collecting trips made by the author to the Blackdown Tableland and surrounding foothills of Expedition Range between 1970 and 1973.

EXPEDITION RANGE BUTTERFLIES

HESPERIIDAE

<i>Badamia exclamationis</i> (Fabricius)		10, 11, 12, 1.
<i>Netrocoryne repanda repanda</i> C. and R. Felder		9, 10.
<i>Trapezites symmomus</i> Hübner	wl.	9.
<i>Trapezites eliena</i> (Hewitson)		7-12, 1-4.
<i>Trapezites maheta</i> maheta (Hewitson)	wl.	8, 9.
<i>Trapezites phigalia philus</i> Waterhouse	nl.	9, 10.
<i>Trapezites petalia</i> (Hewitson)		9-11, 2-4.
<i>Neohesperilla xanthomera</i> (Meyrick & Lower)	wl.	10-12, 2-4.
<i>Toxidia peron</i> (Latreille)		9-12, 1-5.
<i>Toxidia tyrrhus</i> Mabille	wl.	11, 12.
<i>Toxidia parvula</i> (Plötz)		11, 5.
<i>Toxidia crypsigramma</i> (Meyrick & Lower)		9, 10, 11, 3.
<i>Hesperilla furva</i> Sands & Kerr		8-12, 1-3.
<i>Hesperilla sexguttata</i> Herrich-Schäffer		9, 10, 11, 3, 4.
<i>Hesperilla malindeva</i> Lower		9, 10, 12, 4.
<i>Hesperilla ornata</i> ornata (Leach)	wl.	9, 10, 11, 12.
<i>Procidosa polysema</i> (Lower)		9-12, 1-3.
<i>Mesodina halyzia</i> halyzia (Hewitson)	wl.	9, 10, 12, 2.
<i>Taractrocera anisomorpha</i> (Lower)		10.
<i>Taractrocera ina</i> Waterhouse		2.
<i>Ocybadistes walkeri</i> sothis Waterhouse		9, 10, 2, 3.
<i>Ocybadistes hypomeлома</i> hypomeлома Lower		9, 10, 3.
<i>Telicota ancilla</i> ancilla (Herrich-Schäffer)	wl.	9.
<i>Cephrenes trichopepla</i> (Lower)		11, 1.
<i>Cephrenes augiades sperthias</i> (Felder)		11, 12, 2, 3.

PAPILIONIDAE

<u>Protagraphium leosthenes</u>	<u>leosthenes</u>	(Doubleday)	wl.	11, 12, 1, 2.
<u>Graphium sappho</u>	<u>choredon</u>	(C. and R. Felder)	wl.	10-12, 1-4.
<u>Graphium eurypylus</u>	<u>lycaon</u>	(C. and R. Felder)	wl.	11, 12, 3.
<u>Papilio anactus</u>	<u>W.S. Macleay</u>			9-12, 1-5.
<u>Papilio aegeus</u>	<u>aegeus</u>	Donovan		10, 12, 1, 2, 4.
<u>Papilio fuscus</u>	<u>capaneus</u>	Westwood	wl.	11.
<u>Papilio demoleus</u>	<u>sthonelus</u>	W.S. Macleay		10-12, 1-5.
<u>Cressida cressida</u>	<u>cressida</u>	(Fabricius)		10, 11, 12, 2.

PIERIDAE

<u>Catopsilia pyranthe</u>	<u>crokera</u>	(W.S. Macleay)		11, 2, 3.
<u>Catopsilia pomona</u>	<u>pomona</u>	(Fabricius)		10-12, 1-4.
<u>Catopsilia gorgophene</u>	<u>gorgophene</u>	(Boisduval)		10, 12, 3.
<u>Eurema brigitta</u>	<u>australis</u>	(Wallace)		8, 9, 12, 3.
<u>Eurema hecabe</u>	<u>phoebus</u>	(Butler)		9, 4.
<u>Eurema smilax</u>		(Donovan)		11, 12, 5.
<u>Eurema herla</u>		(W.S. Macleay)		7, 8, 9, 10.
<u>Elodina parthia</u>		(Hewitson)		8, 10, 2.
<u>Elodina angulipennis</u>		(H.P. Lucas)		10.
<u>Elodina padusa</u>		(Hewitson)		11, 12, 6.
<u>Delias argenthona</u>	<u>argenthona</u>	(Fabricius)		7-12, 1-6.
<u>Delias aganippe</u>		(Donovan)		7-12, 1-6.
<u>Delias nysa</u>	<u>nysa</u>	(Fabricius)	wl.	8, 9.
<u>Anaphaeis java</u>	<u>teutonia</u>	(Fabricius)		8-12, 2, 3.
<u>Cepora perimale</u>	<u>scyllara</u>	(W.S. Macleay)		9-12, 1-4.
<u>Appias paulina</u>	<u>éga</u>	(Boisduval)		3, 4.

NYMPHALIDAE

<u>Danaus plexippus</u>	<u>plexippus</u>	(Linnaeus)		8-12, 1-6.
<u>Danaus chrysippus</u>	<u>petilia</u>	(Stoll)		8-12, 1-6.
<u>Danaus hamatus</u>	<u>hamatus</u>	(W.S. Macleay)		9-12, 1-5.
<u>Euploea core</u>	<u>corinna</u>	(W.S. Macleay)		8-12, 1-6.
<u>Melanitis leda</u>	<u>bankia</u>	(Fabricius)		9-12, 1-5.
<u>Hypocysta irius</u>		(Fabricius)	wl.	12, 1.
<u>Hypocysta pseudirius</u>		Butler		8-12, 1, 3.
<u>Hypocysta adiante</u>	<u>adiante</u>	(Hübner)		8-12, 1-5.
<u>Geitoneura acantha</u>	<u>acantha</u>	(Donovan)	nl.	10-12, 1-3.
<u>Heteronympha merope</u>	<u>merope</u>	(Fabricius)		10, 11, 12, 1.
<u>Ypthima arctoa</u>	<u>arctoa</u>	(Fabricius)	wl.	11, 12.
<u>Polyura pyrrhus</u>	<u>sempronius</u>	(Fabricius)		10-12, 2, 3.
<u>Hypolimnas bolina</u>	<u>nerina</u>	(Fabricius)		10-12, 1, 2.
<u>Vanessa kershawi</u>		(McCoy)		8-12, 1-7.
<u>Vanessa itea</u>		(Fabricius)	wl.	8, 9, 4.
<u>Precis villida</u>	<u>calybe</u>	(Godart)		8-12, 1-5.
<u>Precis orithya</u>	<u>albicincta</u>	(Butler)		10, 11, 12.
<u>Acrata andromacha</u>	<u>andromacha</u>	(Fabricius)		9-12, 1-5.

LYCAENIDAE

<u>Deudorix epijarbas diovis</u> Hewitson	wl.	9.
<u>Jalmenus ictinus</u> Hewitson		11.
<u>Jalmenus daemeli</u> Semper		11, 12, 1, 2.
<u>Ogyris genoveva duaringa</u> Bethune-Baker		8, 9, 10, 12, 4.
<u>Ogyris zozine typhon</u> Waterhouse & Lyell		9, 5.
<u>Ogyris barnardi barnardi</u> Miskin		8.
<u>Ogyris orioetes</u> Hewitson		10, 1.
<u>Hypochrysops delicia duaringae</u> (Waterhouse)	wl.	9, 10.
<u>Hypochrysops ignita chrysonotus</u> Grose-Smith	wl.	7-12, 1-5.
<u>Pseudodipsas cuprea</u> Sands	nl.	9, 10, 11, 3.
<u>Paralucia pyrodiscus lucida</u> Crosby	nl.	11, 12.
<u>Prosotas dubiosa dubiosa</u> (Semper)	wl.	10, 11, 4.
<u>Nacaduba biocellata biocellata</u> (C. & R. Felder)		7-12, 1-5.
<u>Catopyrops florinda halys</u> (Waterhouse)	wl.	10, 11, 3, 4.
<u>Janides phaseli</u> (Mathew)	wl.	3.
<u>Theclinesthes miskini</u> (T.P. Lucas)		10, 12.
<u>Theclinesthes onycha onycha</u> (Hewitson)		8-12, 1-6.
<u>Lampides boeticus</u> (Linnaeus)		7-12, 1-6.
<u>Euchrysous cnejus cnidus</u> Waterhouse & Lyell	wl.	3, 4.
<u>Everes lacturnus australis</u> Couchman	wl.	11.
<u>Neolucia agricola agricola</u> Westwood & Hew.	nl.	7, 8, 9.
<u>Neolucia serpentata serpentata</u> (Herrich-Schäffer)		8, 9, 4.
<u>Zizina otis labradus</u> (Godart)		7-12, 1-6.
<u>Zizeeria knysna karsandra</u> (Moore)		10, 11, 1, 2.
<u>Zizeeria alsulus alsulus</u> (Herrich-Schäffer)		9-12, 1-4.
<u>Freyeria trochilus putti</u> (Kollar)		11-3.
<u>Candalides cyprotus pallescens</u> (Tite)	wl.	9, 10.
<u>Candalides hyacinthinus hyacinthinus</u> (Semper)	nl.	7-12, 1-5.
<u>Candalides heathi heathi</u> (Cox)		11.
<u>Candalides xanthospilos</u> (Hübner)		3, 12.
<u>Nesolycaena albosericea</u> (Miskin)	nl.	8-12, 1-4.

The list above includes the months of capture and observation indicated by a number (1-4 = January to April: 11, 3 = November and March). The symbols 'wl.' and 'nl.' indicate that the species at Expedition Range is at its known western limit of distribution in the central Queensland area, or the known northern-most limit of distribution within Australia. The list does not include a new species of Hesperilla which the author has collected at Expedition Range. The skipper, which is not confined to this locality, is currently under description.

Additionally, Mr J.C. Le Souëf and Mrs Le Souëf have collected the following species in September at Expedition Range: Graphium sarpedon, Cressida cressida, Catopsilia pomona (forms pomona and crocale), Elodina padusa, Precis orithya, Theclinesthes miskini, and Candalides heathi.

The 98 butterflies listed were mainly caught or observed in comparatively small areas near Horseshoe Lookout and Rainbow Falls, and also along the forestry access track which

leads from the Capricorn Highway to the plateau. In these areas the surrounding country contains a wide variety of vegetation, from brigalow and bottle-tree, various Eucalyptus woodlands, foot-hill grasslands, and on the plateau itself, small areas of rain-forest in the gorges, and mosaics of sandstone heath, dry sclerophyll and larger areas of wet sclerophyll forest.

Most of the species collected probably breed on the range and in the foothills nearby. Immature stages of a number of butterflies including migratory species such as Badamia exclamationis, Euploea core and Anaphaeis java were found throughout the range. A majority of the listed species appear to fly near their breeding areas, notwithstanding the habit of many to 'hill-top'. Some butterflies will be recognised as being widely distributed throughout Queensland, but an equal number are of southern endemic origin. The latter include Trapezites phigalia, Geitoneura acantha, Heteronympha merope and Nicolicia agricola, being typical temperate climate species.

Expedition Range provides breeding grounds for a few rare or local Queensland butterflies such as the 'Satin Blue' Nesolycaena albosericea and the skippers Hesperilla furva, Hesperilla sexguttata and Proeidosa polysema.

Some species found on the plateau are recognisably distinct from coastal populations of the same species. In this regard, Candalides hyacinthinus might be referred more correctly to its southern race, whereas Paralucia pyrodiscus would be better placed with lucida than with the typical race.

Geographical variation has developed to various degrees in Trapezites phigalia, T. mahcta, T. symmomus, Hesperilla ornata, Proeidosa polysoma, Geitoneura acantha, Neolucia agricola and Pseudodipsas cuprea. Of these, Trapezites symmomus and Pseudodipsas cuprea deserve further study.

Expedition Range is a timber reserve and a proposed National Park. A permit is required to collect insects in the area. This can be obtained by writing to Forest Dept. (Rockhampton), "Forester", P.O. Box 344, Rockhampton, Q. 4700., or contact the writer at the address below, or telephone Rockhampton 24133 prior to arrival.

In conclusion I wish to thank Mr and Mrs J.C. Le Souëf for encouragement and help in the preparation of this list, and for supplying additional butterfly records and also for their company on two trips to the Expedition Range. My thanks also to Mr E. Adams, Edungalba, Queensland, for his help in providing literature.

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Footnote:

1. MISKIN, W.H. (1891) Ann. Q'land. Mus. i p.65 Type-locality Expedition Range. Taken by George Barnard.

‡ Flat 1, 15 Booker St., North Rockhampton, Q. 4701.

What Price Our Journal ?

On pages 4 and 5 of this issue some of the problems associated with the production of the Victorian Entomologist are discussed and the decision, by the present Publications Committee, to mail the Journal in envelopes rather than wrappers, was mentioned.

In order to avoid exceeding the 50-gm. limit for minimum bulk-postage rates, the increased weight involved will restrict contents to no more than 5 leaves, that is, 2 leaves less than will be permissible in the case of a wrapper-mailed copy. Of these 5 leaves, 2 are necessary for maintenance of precedent format, and one for the advertising so necessary to maintenance of Publications funds -- and we hope of our advertisers. This leaves a maximum of two sheets (4 pages) of text, sometimes occupied by necessarily lengthy reports.

Quite obviously, this is insufficient, even at the lowest levels of contributions, and the Journal must be increased to the next category with a limit of 100-gms, increasing postage from the present 2½c. per copy to 4½c, or by 12c per annual subscription. Since envelopes will involve an expense of 2c per copy in comparison with wrappers, this will mean a total increase of 24c per annual subscription (but not on those spare copies produced against future requirements). Further increases in postal rates are expected in the foreseeable future.

It appears unavoidable therefore, if the content of our Journal is to be maintained or, more optimistically, increased, subscriptions must be raised. This must regrettably apply particularly to the lower-rate subscription categories (Country, Junior, and Student) which have already been subsidised by 'Ordinary Member' subscriptions.

On a happier note, and in spite of a rather acute paper shortage, the Publications Committee have been able to procure a full year's supply of duplicating paper and board for covers at very favourable rates, thus avoiding any possible mid-year difficulties arising from metricisation of paper size or more acute shortages. As previously indicated, envelopes are to be used, and a full year's stock of these has been purchased. Stocks of wax stencils will require replacement prior to publication of the next issue, and these, together with duplicating if not typing costs, should constitute the only significant additional expenses in the production of the Journal for 1974-5.

Finance permitting, the outgoing Publications Committee look forward to seeing, in 1974, the production of a really comprehensive and detailed Check-list of Victorian Butterfly records, and the possibility of a low-priced handbook on the correct preparation and handling of small insect specimens.

An Unusual Butterfly Record.

On two consecutive days at the beginning of January 1974, a "Camberwell Beauty" butterfly (Nymphalis antiopa) was observed flying and sunning itself at the CSIRO Division of Applied Chemistry, Fishermen's Bend, Melbourne. Staff members identified the species by comparison with plates, but it was not captured. The butterfly is believed to have come from a ship at the nearby wharf.

C.W. McCubbin.

(Nymphalis antiopa is a species occurring in northern Europe and North America. It is a noted migrant, most U.K. specimens being of Scandinavian origin. Migrations, and presumably most emergences, take place in the late (northern hemisphere) summer, and the insects then hibernate. Pairing takes place the following spring. The insect reported above, if a female, is therefore unlikely to have paired, as it would have been taken aboard late in the European autumn. We are, it seems, unlikely to have gained a further introduction. Host plants include Birch (Betula spp.), Willows (Salix spp.) and Nettles (Urtica spp.).)

-ooOoo-

Correspondent Wanted

M. G. Dubault, 2 rue Gaugin, 91600 Savigny/Orge, France is interested in exchanging entomological literature with fellow entomologists in Australia. He has been advised of the current restrictions on export of entomological specimens.

-ooOoo-

Back-issues of the 'Victorian Entomologist'

The Editor advises that the only back issues now available are those of 1973, (Vol. 3, Nos. 1-6). Copies of articles in earlier issues are however available at nominal charge.

February, 1974.

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The Victorian Entomologist

The recent absence interstate of the Secretary and other Council Members unavoidably delayed the last Council meeting, and the following reports were received too late for inclusion in the customary section of the Journal.

HONORARY TREASURER'S REPORT.Statement of Receipts & Expenditure for the Year ending 31.xii.73.

Balance b/fwd	Cr.	31.80	
<u>Receipts:</u>			
Bank interest		1.87	Rent: Library Council 4.00
Subscriptions 1973		176.00	A1 Offest Printing (Covers) 36.80
Donations		40.00	Journal production, paper,
Ex-subs. sales 'Vic.Ent.'		8.40	stencils, &c 42.20
Plant sales		50	Post, Journal on subs. 13.91
Advertising fees rec'd		<u>25.60</u>	Hire of Projector 2.00
			Subs. Aust. Ent. Soc. 10.00
			P.R. exp., post, envelop. &c 10.72
			Editor's expenses 20.11
			Ex-sub. post Vic.Ent. (Ed.) 1.85
			Secretarial Expenses 5.31
			Cheque book 3.00
			Receipt books 80
			Cheque exchange 15
			<u>150.85</u>
			<u>133.32</u>
<u>CREDIT BAL. BANK</u>			
<u>Subject to Audit.</u>		<u>284.17</u>	<u>284.17</u>

HONORARY SECRETARY'S REPORT.

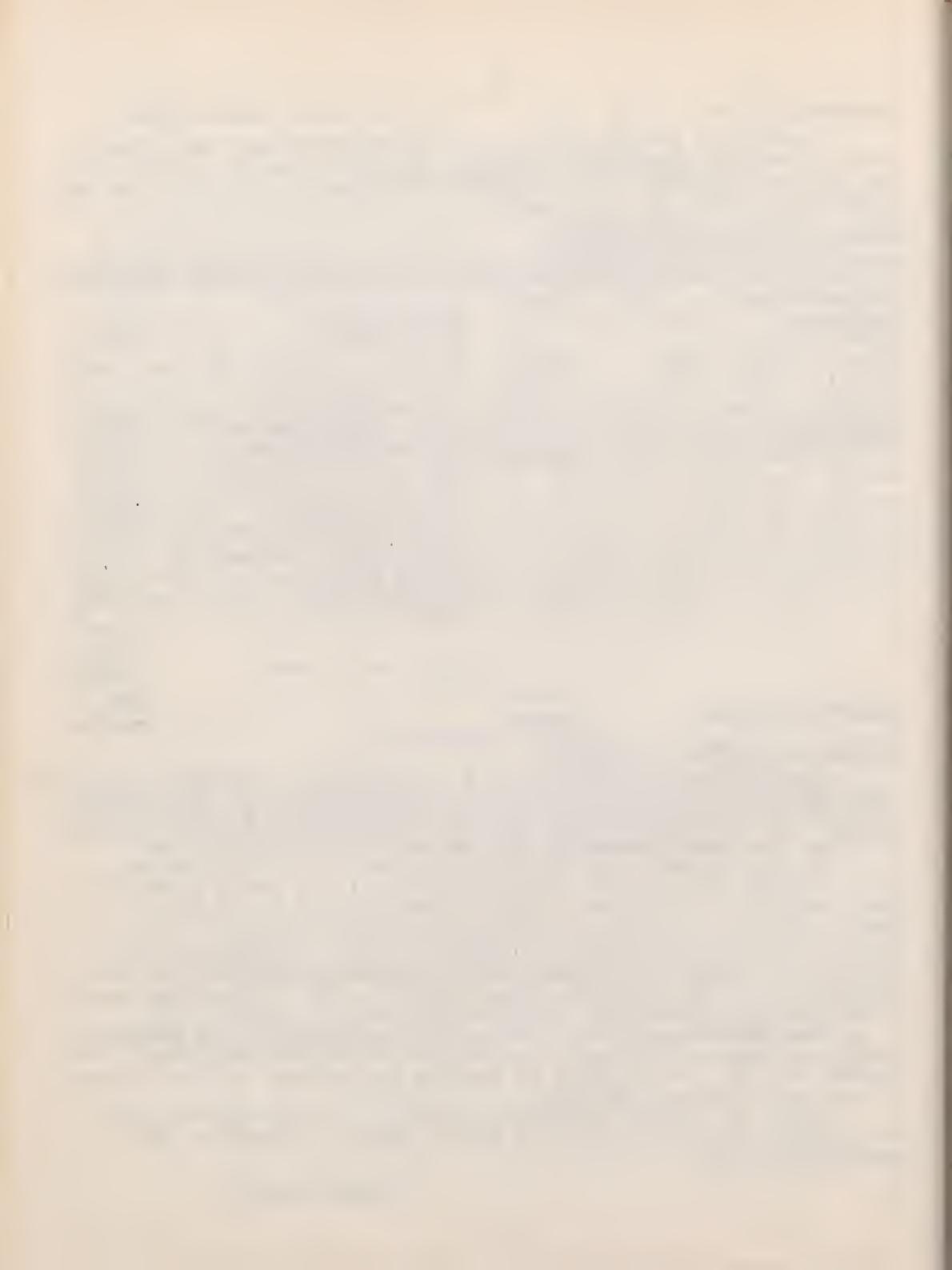
Clunies-Ross House, venue of the Society's Meetings through 1973, has proved most satisfactory, and members have been able to 'spread out' in air-conditioned comfort. Our thanks go to Miss Sue Beattie, our past Secretary, for having initiated the move.

To the Speakers at the 1973 meetings, Dr G. Ettershank, Mr A. Neboiss and Mr H.B. Wilson, we are also greatly indebted. Their subjects, "Ants and General Entomology of New Mexico", "Caddis Flies", and "Insect Telergones and Pheromones" respectively, were instructive and of wide interest. The excursions, to Philip Island, the Big and Little Deserts, Inglewood and the Whipstick, and Mt. Macedon, were fruitful, and for the most part well-attended.

Our President, Mr C.W. McCubbin, together with Mr Warren Bonython, made an historic trip on foot across the Simpson Desert, and we look forward to hearing his account of the journey at the April General Meeting.

With our overall membership passing the 100 mark in 1973, the coming year promises to be one of further expansion and growing interest.

Shane McEvey.



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VICTORIAN ENTOMOLOGIST



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The ENTOMOLOGICAL
SOCIETY of VICTORIA

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The ENTOMOLOGICAL SOCIETY of VICTORIA

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's bi-monthly journal, the "Victorian Entomologist". Excursions are arranged to areas of topical interest at intervals, mainly during the warmer months. Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings for 1971 will be held at Clunies Ross House, National Science Centre, 191 Royal Pde., Parkville, at 8 p.m. sharp, on the second last Friday of even months, commencing with the Annual General Meeting in February. Visitors are always welcome.

<u>Annual Subscriptions:</u>	\$	Notwithstanding the rates shown herein, rising costs and rates of postage, &c. may at some stage necessitate an increase in annual subscriptions
Ordinary Member	3.00	
Country Member	2.00	
Associate Member	1.00	
Junior or Student	1.50	

(Associate members do not receive the journal.)

The statements and opinions expressed in articles herein are the responsibility of the respective authors, and do not necessarily indicate the policy of the Society.

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ENTOMOLOGICAL SOCIETY of VICTORIA

April, 1974.

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The Victorian Entomologist
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Diary of Coming Events

April 19th, 1974: ANNUAL GENERAL MEETING (deferred from February)

8 p.m. sharp, at Clunies-Ross House, 191 Royal Parade, Parkville.
The Speaker will be the President, Mr Charles McCubbin, who will

give an illustrated talk on his experiences in the Simpson Desert.

June 21st, 1974: GENERAL MEETING. Speaker will be Mr David L. Jones, Horticultural Research Officer with the Department of Agriculture.
His subject will be the pollination of orchids by insects.

OTHER EVENTS

The dates for Council meetings and for excursions have not yet been decided.

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R e p o r t s & N o t i c e s

GENERAL MEETING: Friday, February 15th, 1974, at Clunies-Ross House.

In the absence of the President and the Vice-president the meeting was chaired by Mr J.C. Le Souëf. Thirty-two members and friends were present. Apologies were received from Messrs C. McCubbin, N. Quick, A. Morton, D. Crosby, V. Salamitri, O. Rogge, Mr and Mrs R. Manskie and Mr and Mrs D. Holmes.

The minutes of the 1973 Annual General Meeting were read and confirmed, together with the minutes of the December 1974 General Meeting. The Treasurer reported a financial standing of \$60.51, explaining that recent journal expenses had reduced the total considerably.

Although this meeting was to have been the Annual General Meeting, it was decided that because of the absence of the President and various other office-bearers the election of office-bearers should be postponed until the April meeting.

Mr F. Hallgarten suggested a night be set aside for practical demonstration by experienced members of techniques for mounting and handling insects, for the benefit of other members (particularly younger ones) wishing to learn techniques. This was moved by Mrs Le Souëf and was passed unanimously.

The meeting was closed at 8.55 p.m. and was followed by two very interesting C.S.I.R.O. films: "Dung Down Under" and "Some Recent Research Activities in the Division of Entomology".

COUNCIL MEETING: January 28th, 1974.

1. It was suggested by Mr C.W. McCubbin that the note of voluntary protection of two Victorian species of Ogyris (see Vol.4 No.1) be forwarded for the Journal of the Australian Entomological Society.
2. Mr W.N.B. Quick announced that he has been able to purchase quarto paper for The Victorian Entomologist for the whole of 1974 at a good price. There was some further discussion on the production of the magazine in 1974.

COUNCIL MEETING: March 19th, 1974.

Held at 6 Manniche Ave, Box Hill North.

Present: Messrs C.W. McCubbin, A.D. Bishop, R. Condron and N. Quick.

1. The Treasurer reported a credit balance of \$125.81 and 48 subscriptions for 1974 received to date.
2. Correspondence was received from:
 - (i) The Australian Entomological Society, requesting the appointment of a proxy to represent them in the election of the Awards Committee for the Australian Natural History Medallion.

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- (ii) Mr Greg. Daniells, with a remittance covering subscription for 1974, and supply of all issues of Volume 3 of The Victorian Entomologist.
- (iii) Mr J. Ozols, notifying a change of address.
- (iv) Mr D.F. Crosby, with a remittance covering subscription for 1974, and supply of all issues of Volume 3 of The Victorian Entomologist to Mr R. Fisher (S.A.).
- (v) Mr Peter Saxton (Tumbarumba, N.S.W.), with a remittance covering Student Membership for 1974.
- (vi) Three applicants for membership within the U.S.A.
- (vii) Mr L. Winsor, advising of circumstances forcing the discontinuance of his membership, and tendering his best wishes to the Society;

3. Subscriptions. Problems associated with maintaining a balance between low Junior/Student Membership Subscriptions and reasonable Ordinary Membership Subscriptions were discussed. The inevitability of rising costs during 1974 would certainly necessitate a substantial rise in 'Ordinary Member' rates if the 'subsidized' Country, Junior and Student rates were to be retained at their present level. Of several possibilities, the following was assessed as the most equitable;

- (A) The reduced 'Country Member' rate is discontinued
- (B) Junior/Student rate will rise by 50c to \$2.00
- (C) Ordinary Member rate will increase by \$1.00 to \$4.00
- (D) Associate Membership will remain unchanged at \$1.00

as from July 1, 1974.

4. Endangered Species. At the suggestion of Mr Bishop, a call will be made to the April meeting for the formation of a small committee to investigate, collate, and assess information supplied by members about any insect species considered to be endangered.

4. The Council has authorised Mr Bishop to communicate to the Interim Council of the Australian Biological Resources Survey the support of the Society for the application made by Dr C.N. Smithers for a grant to make it possible to obtain the services of Dr F.H. Perring of Monks Wood to give advice for planned Australian entomological grid-mapping programmes.

5. Annual Election of Office-Bearers. In tendering his apologies and asking to be excused from attending the Council meeting, Mr Hutchinson raised the matter of postponement of elections at the February Annual General Meeting owing to a relatively poor attendance. As many members with young families may be away at this time of year, and possibly also during the Easter period, Mr Hutchinson suggested that the Annual General Meeting might be moved forward to the June meeting date. This meeting is generally well-attended, and the change of office-bearers in mid-year would greatly facilitate introduction to their new appointments. This would necessitate an alteration to the constitution. The Council has adopted the suggestion, and accordingly the Secretary has been advised that the April meeting will be an Extraordinary Meeting. The amendment will be sought in Section 10 of the Constitution, in which it will be necessary to amend the month of the A.G.M. from 'February' to 'June'. Under Section 5 of the Constitution, subscriptions are payable in advance at the A.G.M., and no amendment is necessary in this instance. An extended 'credit' period will have to apply to those members whose subscriptions remain unpaid at the April meeting.

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PUBLICATIONS COMMITTEE MEETING: March 26th, 1974.

1. It was decided that a list of members, including phone numbers and interests, will be published in the August 1974 issue of The Victorian Entomologist. It was suggested that, in order to make this possible, a supplementary note be included in the June issue requesting each member to supply these details to the Editor.
2. The rest of the meeting consisted of proof-reading and discussion of articles and reports.

--- --- ---

REPORT OF HONORARY LIBRARIAN, 1973

The library continues to grow, and storage of material is becoming a problem; hopefully the Society may be able to keep it at Clunies-Ross House, which would be a considerable advantage.

As an affiliate of the Australian Entomological Society, our Society receives the Journal of the Australian Entomological Society (four issues per year). In exchange for The Victorian Entomologist we receive the News Bulletin of the Entomological Society of Queensland (ten issues per year) and the Teen International Entomology Group Newsletter (four issues per year). These, together with various entomological reprints, are kept in my possession and are available to any financial member of the Society.

It would be appreciated if members could donate any reprints of articles that they no longer require and reprints of articles published in other journals, as other members may be interested in them.

At a meeting of the Council on November 9 1973 it was decided to subscribe to the Australian Journal of Zoology. This journal, published by C.S.I.R.O., at various times issues a series of supplements which up to the present time have been taxonomic revisions of various groups of insects. It was felt it would be advantageous to obtain these by taking out a subscription to the journal. At the time when it was decided to do this the annual subscription was \$5.00, but it would cost \$2.00 per copy to obtain issues of the Supplementary Series prior to 1973, and in addition the subscription to the journal is increasing to \$15.00 from 1974. The subscription has not been taken out, as it is felt that the feeling of the Society should be gauged before going ahead.

Mr D. F. Crosby has donated a number of reprints on moths by N. B. Tindale, the titles of which appear below. The Society is grateful for this donation. The papers are:

On a new genus of Hepialid moths from Rarotonga in the Pacific islands.
---Annals and Magazine of Natural History 12(7):13-15 (1954).

On some Australian Cossidae including the moth of the Witjuti (Witchetty) Grub.
---Trans. Roy. Soc. S. Aust. 76: 56-65 (1953).

On a new species of Oenetus (Lepidoptera, family Hepialidae) damaging Eucalyptus saplings in Tasmania.
---Trans. Roy. Soc. S. Aust. 76: 77-79 (1953).

Notes on the Eucosmid (Olethreutid) moth Cryptophlebia ombrodelta (Lower).
---Trans. Roy. Soc. S. Aust. 78: 97-98 (1955).

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Life history of a Convolvulus-feeding moth, Aedia acronyctoides (Guenee 1854): Lepidoptera Heteroneura, family Noctuidae.

---Records of the S. Aust. Mus. 7(1): 47-50 (1941).

A new species of Chlenias (Lepidoptera, Boarmiidae) on Acacia aneura, with some central Australian native beliefs about it.

---Records of the S. Aust. Mus. 14(1): 131-140 (1961).

Revision of the Ghost Moths (Lepidoptera Homoneura, family Hepialidae).

---Records of the S. Aust. Mus. 14(4): 563-668 (1964).

The library has a large number of other reprints on moths at present, Mr R. Condron having made a donation of some of his reprints during 1972. A list of these is obtainable for those interested.

J. F. Hutchinson
Hon. Librarian.

REPORT OF HON. PUBLIC RELATIONS OFFICER

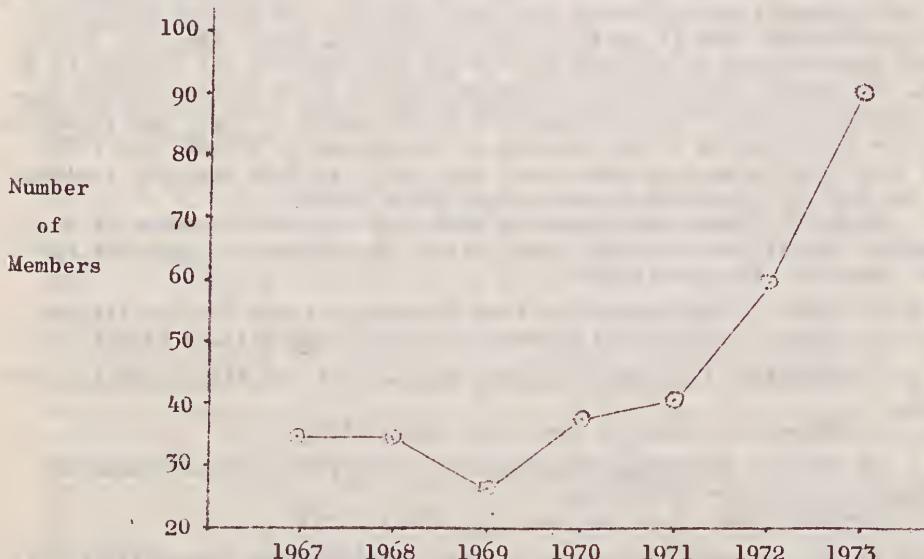
During 1973 application forms were sent to

(a) people who had been members of the Society once but were not now.

(b) people who were not members of the Society but might be interested in joining.

During the year 1973 the membership of the Society increased by 30 persons, from 60 to 90. This 50% increase is most encouraging and it is hoped that 1974 will see membership pass the 100 mark.

Below is a graph of membership of the Society for the last seven years.



Membership 1967-1973

---J. F. Hutchinson

EARLY STAGES OF THE BUTTERFLY NARATHURA ARAXES EUPOLIS (MISKIN)

(LEPIDOPTERA: LYCAENIDAE)

By W.N.B. Quick

Ovum: Grey-white with a darker zone in the vicinity of the micropyle. Flattened, $\frac{7}{10}$ subspherical: pitting and ridges not pronounced. 0.70 mm diameter. Eggs are deposited singly or in twos and threes on the smaller branches of a suitable host plant with actively-growing shoots, and at no great distance from nests of the Green Tree Ant, Oecophylla smaragdina, which attends both larvae and pupae.

Larva: Dull green, with a broad, irregular, mottled reddish-brown dorsal stripe, narrowed at the sixth abdominal segment by pale dorso-lateral markings. Spiracles light red-brown, subtended by a diffuse yellowish line. Lateral line narrow, white, edged purplish-brown. Prothorax dull green, with a pair of crescentic markings, red-brown. Secretory and dorso-lateral organs outlined narrowly with black. Length to 25 mm.



Pupa: Very variable in colour --from pale translucent green to (normally) dull green heavily suffused on thorax and posterior segments with smoky brown-black. In the darker pupae, wing veins and thoracic rupture-lines are visible as paler markings. The posterior segments are elongate, and expanded into a flattened, disc-like cremastral structure. The pupa is suspended by anal hooks and central girdle within small 'nests' of the attendant ants. As in the case of some other Lycaenids, the pupa is capable of emitting audible sounds. In the case of N. araxes eupolis, these are accompanied by a readily-detectable tremor in the leaf to which they are attached. The normal pulse-like 'tick', produced on minor disturbance, gives way to a frenzied succession of squeaks when the pupa is touched. Length up to 20 mm.



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Larvae were found at Cardwell, North Queensland, in May of 1973, feeding on the young foliage of Melaleuca quinquinervia (M. leucadendron). While they were apparently those of one of the Narathura species, they were parasitized, and therefore unidentifiable. Re-visiting Cardwell in March of this year, I was unable to locate any larvae within the same area, but eventually found a number, some two miles distant, this time on young foliage of Eucalyptus intermedia. The larvae were almost full-grown, and no difficulty was experienced in allowing them to complete development on picked foliage in a polythene bag. The resulting pupae were brought to Melbourne, where they were transferred to a breeding cage in an unheated glasshouse. They emerged in approximately three weeks.

When ovipositing, it appears that the female butterfly is as much concerned about locating suitable young foliage as it is about the identity of the host-plant, the only other criterion being the presence of the attendant ant. Larvae will doubtless be found on a variety of other plants, as are those of N. micalis. N. araxes eupolis appears to favour coastal areas close to streams, and just inland of the estuarine scrubs. In this case, the larvae were found on juvenile plants growing on the flood-plain of a small creek. The Eucalypt and Melaleuca were associated with other Eucalypts, Tristania suaveolens and Pandanus in an open forest community rather less than 1 km inland.

-oo0oo-

Some Unusual Butterfly Observations

(communicated by A. Neboiss)

On 2nd February 1974 a male of Hypolimnas bolina nerina F. was observed in a garden at Dimboola, Victoria.

A more unusual record was at Wail Nursery, 26th February 1974. It was a Tailed Emperor (Polyura pyrrhus sempronius (F.) and I followed this beautiful insect about the grounds for some time. I first saw it from my office window near a Kurrajong and then it spent some time around and on a Lacebark (also a Brachychiton).

W. G. D. Middleton,
District Forester, Dimboola

-oo0oo-

HELP NEEDED

Miss Penny Gullan (Zoology Department, Monash University) is doing an honours project on the taxonomy, distribution and ecology of the genus Anilicus (Coleoptera, family Elateridae), and is interested in obtaining loan material, information on localities of occurrence, dates of collection and plant associations of the various species.

Anyone who can help her can contact her via the Zoology Department or by writing to her at her home address:

Lot 2/Unit 2 Janice Rd,
Glen Waverley,
Vic. 3150.

CONTROL BURNING IN THE DANDELONGSA Study of Long Term Effects on the Understory Flora and Associated Insect FaunaReport of 2nd Survey (24 January and 27 January 1974)

by C. W. McCubbin

This report gives the results of the second survey of a series. The first survey was reported in Vol. 1 No. 2 of The Victorian Entomologist.

The general impression of the area, subjected to control burning in 1971, is of a forest of mainly mature Eucalyptus obliqua (Messmate) and E. radiata (Narrow-leaf Peppermint). Acacia myrtifolia (Myrtle Wattle) appears as the dominant undershrub, through a tangle of Tetrarrhena juncea (Forest Wire Grass) and Amperea xiphoclada (Broom Spurge) stems is visible, the A. juncea greatly outnumbering the A. xiphoclada stems. Occasional solitary Pteridium esculentum (Austral Bracken) fronds stand above the A. myrtifolia as do a few dead sticks of larger shrubs or small saplings killed in the 1971 control burn off. The remaining components are either too small or too few to make a strong visual impression.

As in the first survey, quadrat sample areas each of three feet square were marked out in the survey area and every plant present counted and its species noted.

1ST QUADRAT SAMPLE

<u>Species</u>	<u>Stems at ground level</u>
<u>Acacia myrtifolia</u> (Myrtle Wattle)	19: up to 1 metre tall
<u>Amperea xiphoclada</u> (Broom Spurge)	6
<u>Epacris impressa</u> (Common Heath)	5 small plants
<u>Eucalyptus</u> probably <u>obliqua</u> or <u>radiata</u>	4 small seedlings
<u>Goodenia geniculata</u> (Bent Goodenia)	48
<u>Haloragis tetragyna</u> (Common Raspwort)	10
<u>Lomandra filiformis</u> (Wattle Mat-rush)	1 clump
<u>Lomatia ilicifolia</u> (Holly Lomatia)	25, mostly small seedlings
<u>Pteridium esculentum</u> (Austral Bracken)	8 fronds: 3 live, 5 dead
<u>Pteris tremula</u> (Tender Brake)	2 small tussocks: 7 live, 4 dead fronds.
<u>Pultenaea scabra</u> (Rough Bush-pea)	3 small seedlings
<u>Spyridium parvifolium</u> (Dusty Miller)	22 small seedlings
<u>Stylium</u> sp. (Trigger Plant)	1
<u>Tetratheca ciliata</u> (Pink Bells)	1
<u>Tetrarrhena juncea</u> (Forest Wire Grass)	126 stems
<u>Thysanotus tuberosus</u> (Common Fringe-lily)	1
<u>Viola hederacea</u> (Ivy-leaf Violet)	4 small plants
<u>Lomandra glauca</u> (Pale Mat-rush)	9 small plants

April, 1974

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2ND QUADRAT SAMPLE

<u>Species</u>	<u>Stems at ground level</u>
<u>Acacia myrtifolia</u> (Myrtle Wattle)	52 live, 2 dead (probably pre-1971-burn)
<u>Amperea xiphoclada</u> (Broom Spurge)	10
<u>Epacris impressa</u> (Common Heath)	1 small seedling
<u>Eucalyptus</u> sapling	1 dead
<u>Goodenia geniculata</u> (Bent Goodenia)	111
<u>Haloragis tetragyna</u> (Common Raspwort)	2
<u>Lomandra filiformis</u> (Wattle Mat-rush)	3 clumps: 1 large, 2 small
<u>Lomandra glauca</u> (Pale Mat-rush)	1 small plant
<u>Pteridium esculentum</u> (Austral Bracken)	4 fronds: 1 live, 3 dead
<u>Pultenaea scabra</u> (Rough Bush-pea)	2 small seedlings
<u>Spyridium parvifolium</u> (Dusty Miller)	5 small seedlings
<u>Tetrarrhena juncea</u> (Forest Wire-grass)	200+ stems
<u>Thysanotus tuberosus</u> (Common Fringe-lily)	1

In addition to the plants listed in the two quadrat samples, the following species were also noted in the area:

- Dipodium punctatum (Hyacinth Orchid). 2 specimens noted.
- Dianella sp. (Flax Lily). Along track edges.
- Goodenia ovata (Hop Goodenia). Along track edges.
- Acacia melanoxylon (Blackwood). 1 seedling by track.
- Acacia verticillata (Prickly Moses). Lower slopes near track.
- Acacia dealbata (Silver Wattle). 1 seedling by track.
- Acacia mucronata (Narrow-leaf Wattle). 1 plant on unburnt track margin.
- Tieghemopanax sambucifolius (Elderberry Panax). Unburnt track fringes.
- Lobelia alata (Angled Lobelia).
- Lobelia gibbosa (Tall Lobelia).
- Holcus lanatus (Yorkshire Fog Grass). Along track.
- Olearia lirata (Snowy Daisy-bush).
- Correa reflexa (Common Correa).
- Acrotriche depressa (Wire Ground-berry). Unburnt track margins.
- Taraxacum officinale (Dandelion). Along track margins.
- Centaurium sp., probably C. minus (Common Centaury). Along track margins.
- Agrostis sp. (Bent Grass). Along track.
- Danthonia geniculata (Kneed Wallaby-grass). Along track.
- Introduced Brown Top Grass. Along track.
- Grass sp. unidentified, along track.
- Lepidosperma sp., (Sword-sedge).
- Gahnia sieberana (Red-fruit Saw-sedge). Southern edge of slope.
- Rubus fruticosus agg. (Blackberry). Along track.
- Pimelea flava (Yellow Rice-flower).
- Billardiera scandens (Common Apple-berry).
- Platylobium obtusangulum (Common Flat-pea). Common lower edge of slope.
- Cassinia 2 spp. Occasional specimens near track on lower slope.
- Poa australis sp. agg. Lower slope.

The area was almost devoid of Eucalyptus intermediate in age between small seedlings and mature trees. Lomatia ilicifolia, the roots of which seem to have survived the 1971 control burn, and Acacia myrtifolia, which had grown from seed since 1971, had both produced seed. Other shrubs were still far too small to seed for some years yet.

April, 1974

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Since 1971 the number of species per quadrat sample has more than doubled: 18 and 13, previously 7 and 6. The overall species count for the broad area also shows an increase: some 20 species not previously noted are now included, while 11 species from the earlier list were not found (some of these appear only seasonally). The area was visited twice in an effort to locate species not previously found there. The missing species are as follows:
Cassytha sp., Comesperma volubile, Cyathea australis, Glyceria dives, Goodenia lanata, Pimelea ligustrina, Prostanthera lasianthos, Senecio sp., Stackhousia monogyna, Stylium graminifolium, Thelymitra sp.

Insect Survey

Mount Dandenong Control Burning Test Site, 24 January 1974.

Light Trap: 500W Mercury Vapour Lamp suspended one foot above a 15" X 20" white enamel tray containing a quarter of an inch of alcohol. A 6' X 6' white sheet was suspended behind the lamp with its lower edge turned under the enamel tray so that insects hitting the sheet tended to fall into the tray. The lamp was left burning for one hour, at the end of which time all the insects that had fallen into the alcohol were collected and separated to species level.

The light trap was erected on a jeep track which divides the area subjected to control burning in 1971 from the area which had not been burnt since 1962. Insects captured would have been drawn from both areas.

Temperature 25°C; fine following a hot humid day, no moon.
 Time: 10.30 p.m. to 11.30 p.m.

Orders of insects represented in the catch:

Order	No. of species	No. of specimens
Lepidoptera	188	688
Trichoptera	.5	6
Coleoptera	40	478
Blattodea	1	3
Isoptera	1	2
Hymenoptera	47	104
Hemiptera	32	87
Neuroptera	2	5
Diptera	70	1593
9 orders	366	2966
Diptera	47 species in 471 specimens, total 471 8 species in 180 specimens, total 180 12 species in 310 specimens, total 310 1 species in 72 specimens, total 72 1 species in 350 specimens, total 350 1 species in 210 specimens, total 210	
	70 species.....total 1593	

Lepidoptera

	1 each of	83 species.....	total	83
2	"	39 "	"	78
3	"	26 "	"	78
4	"	12 "	"	48
5	"	5 "	"	25
6	"	2 "	"	12
7	"	1 "	"	7
8	"	2 "	"	16
10	"	3 "	"	30
11	"	3 "	"	33
12	"	2 "	"	24
13	"	1 "	"	13
15	"	2 "	"	30
16	"	1 "	"	16
19	"	1 "	"	19
20	"	2 "	"	40
21	"	1 "	"	21
22	"	1 "	"	22
28	"	1 "	"	28
31	"	1 "	"	31
34	"	1 "	"	34

188 species.....total 688

Coleoptera

	1 each of	27 species.....	total	27
2	"	5 "	"	10
3	"	2 "	"	6
5	"	1 "	"	5
6	"	1 "	"	6
7	"	1 "	"	7
9	"	1 "	"	9
11	"	1 "	"	11
397	"	1 "	"	397

40 species.....total 478

Hymenoptera

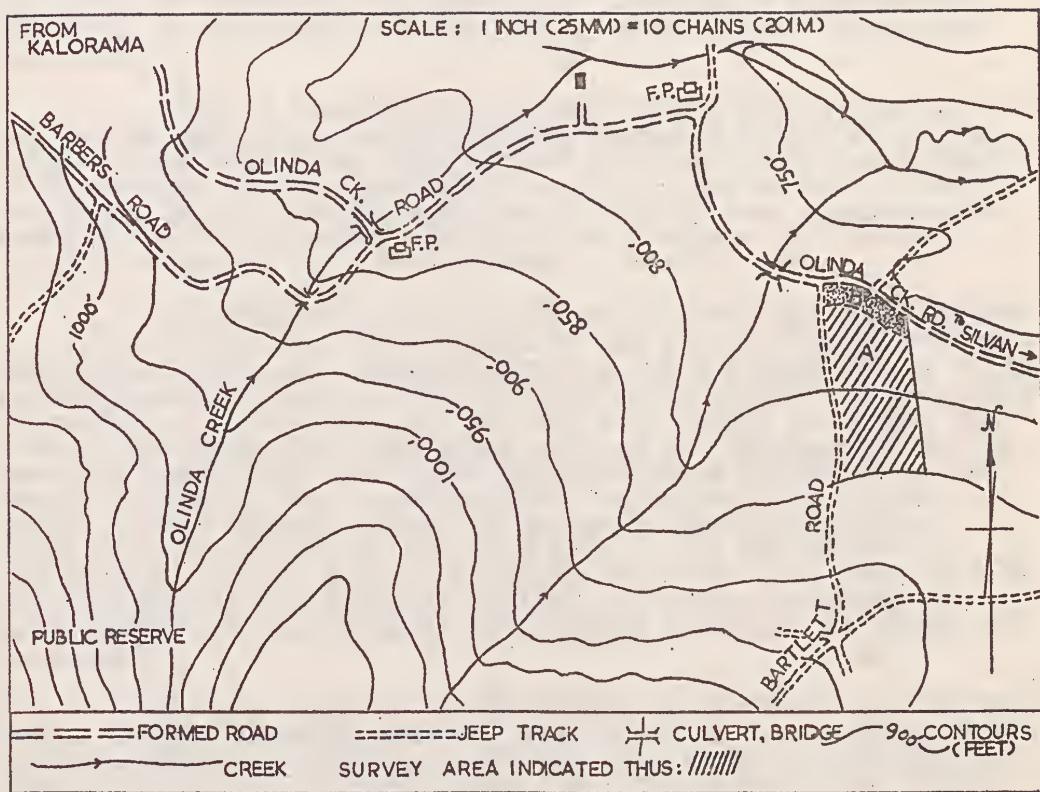
	1 each of	34 species.....	total	34
2	"	6 "	"	12
3	"	3 "	"	9
4	"	1 "	"	4
6	"	1 "	"	6
9	"	1 "	"	9
30	"	1 "	"	30

47 species.....total 104

Hemiptera

	1 each of	19 species.....	total	19
2	"	7 "	"	14
3	"	3 "	"	9
6	"	1 "	"	6
11	"	1 "	"	11
28	"	1 "	"	28

32 species.....total 87



ABNORMAL INSECT OCCURRENCES DURING THE SUMMER PERIOD 1973-74.

The summer season just past has been one of the most remarkable ever recorded, with the tropical monsoonal influence extending up to 2000 km south of its normal belt. In many inland areas monthly precipitation has exceeded the mean annual rainfall, a phenomenon accompanied by abnormally high humidity, and which is unlikely to recur to an equal extent within our lifetime.

Just as remarkable has been the rapidity of appearance in, and occupation of southern areas normally climatically unsuitable, by insects of northern and subtropical areas. A number of these have been recorded for the first time as having bred in Victoria. Others must be regarded as adventitious migrants. All however must be recorded ultimately in a census of Victorian insects -- one of the ultimate aims of our Society.

In order to summarise and co-ordinate all such records for future reference, the assistance and cooperation of members, associates, and other entomologists is being sought. It is fully appreciated that members will be loth to cut a section from their journals -- and indeed that some may even forget to return any form of questionnaire. For these reasons the enclosed forms are produced separately, and extra copies will be available in the event of loss or late records. When completed, they may be handed to any Council member or member of the Publications Committee, preferably at the June meeting, or may be posted directly to: W.N.B. Quick, 20 Alimar Rd., Glen Waverley. V. 3150. All records will be accredited within an interim summary to be published in the Journal, and careful attention to detail is requested.

In the event of no exact date having been noted at the time, an approximation such as "mid-March" or "early Feb." should be used. Wherever possible, list the species by its scientific name, and add, in an abbreviated form if necessary, the Family to which it belongs in parenthesis beneath the name.

At a later date it is the intention of the present Publications Committee to suggest a similar tabulation of the occurrence of rare or local insects which may, for various reasons, be in need of some protection in the foreseeable future. Members are requested therefore to keep note of any such records for future reference. Hopefully, by this stage, we may be involved in the long-sought grid-mapping programme.

PLEASE COMPLETE THE FORM EVEN IF YOU HAVE ALREADY COMMUNICATED YOUR RECORDS VERBALLY, OR INTEND TO WRITE A MORE ELABORATE NOTE ON SUCH OCCURRENCES FOR SEPARATE PUBLICATION.

ABNORMAL INSECT OCCURRENCES DURING THE SUMMER PERIOD 1973-74.

Name: _____

Address: _____

Postcode: Telephone No.:

SUBSCRIPTION IN ARREARS.

Subscriptions for the current year became due and payable in February. Members whose subscriptions have not been received at or prior to the April meeting will find a RED STICKER on the cover of this issue. If continuity of membership and receipt of the Journal is desired, as we trust it will be, please make certain that subscriptions are paid without delay. If our records are incorrect, please advise the editor at your earliest convenience.

SUBSCRIPTIONS FOR 1975

Regrettably, if not unexpectedly, it has been found necessary to increase Membership subscriptions. The increased fees will not however apply during the balance of the present financial year unless unforeseen circumstances arise, but will be payable for the year 1975. The new rates will be:

Ordinary Member	£(Aust.)	4.00	\$(U.S.)	6.50
Bona fide Student over 21		2.00		3.25
Junior Member (Under 21)		2.00		3.25
Associate Member		1.00		+++

Associate Members do not receive a separate Journal, but in all other respects rank as Ordinary Members. Late subscriptions, i.e. subscriptions paid by new members in the course of any year, entitle that member to receipt of all issues of the Victorian Entomologist for that year, but should be renewed at or prior to the February meeting of the following year.

CURRENT SUBSCRIPTION RATES:

Ordinary Member	£(Aust.)	3.00	\$(U.S.)	5.00
Country Member		2.00		+++
Associate Member		1.00		+++
Bona fide Student over 21		1.50		2.50
Junior Member (Under 21)		1.50		2.50

MEMBERSHIP LIST

An up to date list of members will be published at an early date, and it is requested that the following be completed and returned to the Hon. Editor at your earliest convenience:

Member's Name.....
Address Postcode.....

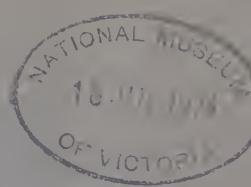
JUNIOR MEMBERS please state age at Feb. 15th. last:.....
STUDENT MEMBERS, age as above, and University or Institute.

MAIN INTERESTS:

Ord./C./Ass./Jun./Stud.
or Hon. Member.
Please indicate.

Vol. 4 : No. 5, June

1974.



THE
VICTORIAN ENTOMOLOGIST



Journal of
The ENTOMOLOGICAL
SOCIETY of VICTORIA

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as a periodical - Category B.

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The ENTOMOLOGICAL SOCIETY of VICTORIA

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's bi-monthly journal, the "Victorian Entomologist". Excursions are arranged to areas of topical interest at intervals, mainly during the warmer months. Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings for 1971 will be held at Clunies Ross House, National Science Centre, 191 Royal Pde., Parkville, at 8 p.m. sharp, on the second last Friday of even months, commencing with the Annual General Meeting in February. Visitors are always welcome.

Annual Subscriptions:

	\$
Ordinary Member	3.00
Country Member	2.00
Associate Member	1.00
Junior or Student	1.50

(Associate members do not receive the journal.)

Notwithstanding the rates shown herein, rising costs and rates of postage, &c. may at some stage necessitate an increase in annual subscriptions

The statements and opinions expressed in articles herein are the responsibility of the respective authors, and do not necessarily indicate the policy of the Society.

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The reproduction of taxonomic papers within this Journal shall not constitute formal publication.

June, 1974

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The Victorian Entomologist

ENTOMOLOGICAL SOCIETY of VICTORIA

Office Bearers

President:

Mr C.W. McCubbin, 6 Manniche Ave, Box Hill North, Vic. 3129
Phone 89-9171

Vice-pres.: Mr W.N.B. Quick, 20 Alimar Rd, Glen Waverley, V. 3150
Phone 560-8145

Hon. Sec.: Vacant until June General Meeting.

Hon. Treas.: Mr R. Condron, 96 Shannon St., Box Hill Nth, V. 3129
Phone unavailable

Hon. Editor: Mr A.D. Bishop, 5 Warnes Rd, Mitcham, Vic. 3132
Phone 874-6119

Hon. Librarian } Mr J.F. Hutchinson, Scoresby Hort. Res. Stn,
P.R. Officer } P.O. Box 174, Ferntree Gully, Vic. 3156
Phone 231-2233

See also note at bottom of page 33.

Diary of Coming Events

June 21st, 1974: ANNUAL GENERAL MEETING at 8 p.m. sharp,

Clunies-Ross House, 191 Royal Parade, Parkville. Please note that this is the new date for the Annual General Meeting and election of Office-bearers. GUEST SPEAKER will be Mr W.G. Nicholls, who will screen some films on the early stages of some butterflies and moths.

August 23rd, 1974: GENERAL MEETING. Speaker will be Dr D.M. Churchill, who will discuss some further aspects of grid-mapping, and problems associated with any programme.

October 18th, 1974: General Meeting.

November 30th, 1974: Excursion to Launching Place.

December 13th, 1974: General Meeting and Members' Night.

June, 1974

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Reports & NoticesGENERAL MEETING: April 19, 1974, held at Clunies-Ross House.

The President, Mr Charles McCubbin chaired the meeting, which was attended by some 57 members and friends. A special welcome was extended to a number of new members attending for the first time. Apologies were received from Messrs A.D. Bishop and D.E.A. Morton, and Mr & Mrs R. Manskie.

Minutes of the previous meeting were read, including the decision of the meeting to postpone the election of office-bearers owing to an extremely poor attendance. As reported in the April issue of the Journal, a Council Meeting on March 19th resolved to seek an amendment to the Constitution, delaying elections until the June Meeting, which, normally well-attended, would thence become the Annual General Meeting.

The April Meeting, as had been advised to the Secretary, was therefore declared an extra-ordinary Meeting for the purpose of amending the constitution in item 10, changing the date of the Elections and Annual General Meeting from February to June. Acceptance of this change was recommended to the meeting by the President. Mr Hallgarten requested further clarification on (i) the date on which dues would become payable and (ii) the effect on funds available to the then incoming Council and Publications Committee. In the ensuing discussion it was explained that the internal financial arrangements, and publication schedule of the Journal would be unaffected, and that as all major commitments had already been met by the Publications Committee for the balance of the year, funds available for the incoming Office-bearers would be in excess of those available to the present Publications Committee at the same period last year. Acceptance of the recommendation was moved by Mr N. Quick and then seconded by Mr Hallgarten.

The Treasurer advised of a current membership of 64 financial members, and drew attention to the proposed changes in structure of available membership classifications, and slightly increased fees for the year 1975. Details of these changes appear in Volume 4 No. 2 of the Journal.

Shane McEvey, who took over from Miss Sue Beatty on her retirement as Secretary some twelve months ago, announced that studies would prevent him continuing in this capacity over the extended period until the new date for elections, and that he would have to resign his position as from the close of this meeting. (Secretarial duties in the intervening period will be handled by the Vice President, Mr N. Quick --- Ed.)

Mr Charles McCubbin was appointed proxy to act on behalf of the Australian Entomological Society on the Committee for selection of candidates for the Natural History Medallion.

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Mr P. Kelly suggested that in view of the absence on two recent occasions of both the President and Vice President, provision should be made in the Constitution for the election of two vice-presidents, as has been found necessary in some kindred societies, such an amendment to be voted on at the first June Annual General Meeting.

Speaker for the evening was our president, Mr Charles McCubbin. Owing to an unusual electrical fault, members were moved at the last moment into the Main Auditorium for his most delightfully descriptive narrative of the trials and tribulations, the joys and despairs, and the ultimate elation as the crossing of the Simpson Desert neared its successful conclusion. His slides of the terrain and wildlife encountered were a credit to his artistic taste and attention to tiny details the casual observer would so easily pass over.

It is regretted that in the mid-meeting changeover between auditoria, notes on both exhibits and the names of exhibitors were mislaid, and the Secretary extends his apologies to those concerned.

COUNCIL MEETING: May 19, 1974. Held at 20 Alimar Rd, Glen Waverley.

Present: Messrs R. Manskie, A. Neboiss, A.D. Bishop, R. Condron and N. Quick. Apologies were received from Messrs C.W. McCubbin and J.F. Hutchinson.

The Treasurer reported a financial membership of 82 (two of whom have paid 1975 subscriptions in advance), and a credit balance of \$237.25. Donations which were received from Messrs Keith Hateley and Max Moulds were also brought to the attention of the Council, who wish to express their gratitude.

A great deal of time was spent in deliberations over the questionnaire received from the Australian Entomological Society regarding the Customs Regulation 13A. The Council, as it happens, is composed of members variously concerned with taxonomic, genetic and other works likely to involve exchange or loan of material with overseas workers, but also represents many members actively interested in or engaged in exchange with overseas collectors at a purely amateur level.

Consideration was given to the various types of Membership which are available, and how these might be rationalised and simplified in the process of up-dating the constitution. A basis for Life-membership was established, and various recommendations made in relation to other types of membership. It was unanimously agreed that a recommendation of Honorary Life Membership for Mr J.C. Le Souëf be put to the June meeting, in recognition of his unfailing interest in the proceedings and very existence of the Society, and a lifetime of devotion to the promotion of entomological interests.

June, 1974

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The possibility of production of both lapel badges and special-purpose medallions for the Society was discussed and will be further examined before a report is made.

Correspondence, &c., was received from:

Messrs Australian Entomological Supplies. (Catalogue).

Australian Entomological Society. Questionnaire, &c., as stated above.

Entomological Society of Australia (N.S.W.) Circular.

Australian Entomological Society. Memorandum, Student Awards.

Mrs Norma Harrison, Stanhope, V. An interesting and useful letter detailing some unusual insects seen recently in the area. These will be incorporated in a summary to be produced shortly.

Committee of Management, Ocean Grove Nature Reserve. Introd.

Pamphlet.

Typing of Stencils: This has now become a serious problem, and a request is made to all members to attempt to locate someone to do at least a proportion of these at reasonable cost, and retain correct spelling &c.

PUBLICATIONS COMMITTEE MEETING: Sunday 12th May, 1974

1. Format of the present issue of The Victorian Entomologist was discussed, and articles were proof-read. Arrangements were made for organisation of typing of this issue.
2. One of the original aims of the E.S.V., the compiling of a list of all insect species known from Victoria, was discussed. It was decided that the time has now come for this project to be begun, and broad outlines were proposed. The list will appear in parts, over a period of years, each part dealing with a number of orders. The known distribution of each species in Victoria will be given, and it is hoped that this will be facilitated by the grid mapping survey which is expected to begin in the next year. The first part of the list will deal with the orders Thysanura, Ephemeroptera, Odonata, Blattodea, Isoptera, Mantodea, Dermaptera, Plecoptera, and Orthoptera.

-000oo-

THE HON. LIBRARIAN.

Any members who may be wondering where Jim Hutchinson has got to may contact him c/- Daly River Mission, via Darwin, N.T. 5791. Time available to him for reply to mail may be limited, so please bear this in mind if contacting him.

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COLLECTING IN THE FLINDERS RANGE, SOUTH AUSTRALIA

By R.H. FISHER.

Inspired mainly by the desire to collect the rare subspecies Ogyris genoveva splendida I have made several attempts over the last fifteen years or so to reach the most northern parts of the Flinders Range. In 1958 a minor accident to my companion caused us to turn back when almost there. In 1972 I reached Hawker, and was forced to abandon the trip because of torrential rain, which very quickly makes most roads through the Flinders impassable. On this occasion I did manage to find Jalmenus icilius breeding on Acacia victoriae.

Undeterred, I planned another trip for February, 1974. The gods that control these things got to hear about this one too and sent record monsoonal rains right across the north of Australia, and well down into the Flinders Range, as if to say "Look mate, you'd better give up". Now a good lepidopterist never gives up, so I went right ahead with my plans, and the day before I was due to leave the word was that the roads were open to experienced drivers. The possibility that this might eliminate me did not occur to me.

Near Melrose, about 320 km north of Adelaide I had my first success, and collected a single specimen of Jalmenus lithochroa, settled on some flowering lucerne growing near the road. This species, which is only found in South Australia seems to have disappeared from its type locality near Adelaide due to urbanization, and this was my first experience of it. I decided to spend more time here coming back. Further north, near Quorn, I found a large area of one of the food plants of Eurema smilax, Cassia nemophila, with a number of the adults flying close to the ground, and all apparently very good specimens. I am inclined not to collect this sort of thing these days, preferring to spend the time searching for the life history, which I did without success.

I stayed at Quorn, and next day followed the main unsealed highway up the western side of the Flinders to Copley, 550 km north of Adelaide, before turning east to pass right across the range. Near Italowie Gorge I found two worn males of Hypolimnas bolina nerina, flying together, and wondered what else had blown in from the general direction of Queensland. It was a hot day with lots of small Lycaenids around, and I collected a number of Neolucia s. serpentata, Nacaduba b. biocellata and the inevitable Zizina otis labradus, before moving on to Big John Creek, which was running about 100 m wide and appeared about 20 cm deep where the road crossed its rocky bed. I think I probably got my metric conversion mixed up, as halfway across the water suddenly got very deep and was running under the car doors before the ignition became awfully wet and the motor stopped. I had to step out into the beautifully cool water, dry the ignition and take the fanbelt off, before

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proceeding.

The road emerges from the range and passes down the eastern side giving a magnificent view across the plains towards Lake Frome. The normally arid country was incredibly green, with grass and herbage waist-high.

My destination was Arkaroola, about another 30 km north. Arkaroola is an admirable tourist resort, combined with a 600 sq. km fauna and flora reserve. I had been given permission to collect butterflies there, and had promised the management a list of species!

I had seen a lot of Danaus chrysippus petilia flying on the way up and wondered what its food plant was. The keen observation of Mrs. Kenny, a botanist who was visiting there provided the answer; she found the larvae on Cynanchum floribundum (Asclepiadaceae), a twining plant with small leaves and small white flowers.

There was a lot of mistletoe in the area, particularly Amyema miquelii growing on Eucalyptus gillii and other mistletoes on Acacia aneura etc. I soon caught an Ogyris, and was delighted when I found it to be a male of O. oroeetes, but was unable to find any larvae or pupae. It appears to fit the description of the subspecies apiculata Quick, but is distinctly tinged purple above. Unfortunately this was the only specimen taken; I saw others but they were flying very high over the mistletoe.

The northern Flinders Range is the southernmost limit in S.A. of the native orange, Capparis mitchellii, which is the food plant of Anaphaeis java teutonia. The trees, which grow to a height of up to about 4 m, were made obvious by the numbers of black and white butterflies flying near them. I found larvae and pupae of the caper white on the leaves and stems of most of the trees I inspected, and occasionally found groups of up to 75 of the orange pointed eggs, particularly on the younger foliage near the top. The trees are very dense and often thorned, and one had to be content to examine the early stages on the lower branches. The flowers of the tree are quite large and showy, each with some 50 stamens about 4 cm long, and the fruits are like small green oranges, with a few seeds in the middle of a thick pith.

Just for the record I decided to net a couple of Pieris rapae I had seen. I chased one, caught it and found I had a perfect specimen of Elodina padusa. I checked Common & Waterhouse and found it too fed on Capparis mitchellii, so went back for a closer look at the trees. I found that about one third of the butterflies around the trees were indeed E. padusa, the remainder A. java. However the life history eluded me. Perhaps the females were laying eggs near the tops of the trees.

After good rains in this country an immense variety of annual plants reappears, and the perennials burst forth with new foliage. One of the plants which appear abundantly along the banks of the normally dry watercourses, and in the gullies is Psoralea sp., the food plant of Papilio demoleus sthenelus. The one I found has been identified as Ps. cinerea, and I collected eggs and larvac in all stages, and the very striking adults were quite common wherever the plants were growing.

I had hoped to reach Mount Painter, which is the type locality for O. genoveva splendida. However I failed for the third time, as all roads in the area had been badly damaged by the recent heavy rains, and I had to be content with collecting locally on foot. Other species collected included Papilio anactus, (breeding on cultivated Citrus trees); Theclinesthes onycha; Precis villida calybe; Catopsilia pyrantha; and some of the P. rapae were in fact P. rapae.

At this stage the gods awoke again and sent heavy rains and tempests to effectively cut off my retreat to the south. I was delayed two days, before being assured again that an experienced driver would get through. I got through, but with my ignition wet more times than the number of species collected.

The climax was perhaps the finding of larvae and pupae of Jalmenus lithochroa at Melrose on the way back. The pupae were found near the base of the trunks of Acacia victoriae, or sometimes attached to debris and dead leaves caught in the foliage. The green and brown (or sometimes completely brown) larvae were on the stems of the trees, usually near some young foliage, and were attended by a large black ant which has not yet been identified. Unfortunately many were parasitized by a small wasp or a larger fly, also awaiting identification. Those that survived fed well on foliage that I brought back in plastic bags, but would not transfer to Acacia pychantha, which is the plant on which the species used to be found near Adelaide.

Further north, near Kanyaka Creek I also found a number of eggs on A. victoriae which I hope will be this butterfly. Some were empty, the remainder perhaps will emerge in October. I have some seedlings established in case I need them.

LIST OF SPECIES:

Pieridae

- Eurema smilax
- Pieris rapae rapae
- Catopsilia pyrantha crokera
- Anaphaeis java teutonia
- Elodina padusa

Papilionidae

- Papilio anactus
- Papilio demoleus sthenelus

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Nymphalidae

Danaus chrysippus petilia
Precis villida calybe
Hypolimnas bolina nerina

Lycaenidae

Ogyris oroetes ? apiculata
Nacaduba biocellata biocellata
Neolucia serpentata serpentata
Zizina otis labradus
Theclinesthes onycha onycha
Jalmenus lithochroa
Jalmenus icilius

I am grateful to the Royal Society of S.A. Inc. for financial assistance for this field work.

-ooOoo-

Observations on the Pairing of Danaus plexippus,
the Wanderer or Monarch Butterfly.

By Bob Condron. *

During recent years I have bred some hundreds of Danaus plexippus, most of which were tagged and released in conjunction with the research programme of the Sydney Museum. However, until this year, I had never observed, or been able to induce in captivity, mating amongst any of these butterflies.

At about 6 p.m. (E.S.S.T.) on the 3rd. February 1974, a tagged male butterfly, which had remained around the back garden for a day or so, was observed mating with an itinerant and untagged female. During copulation, the female insect was carried short distances, suspended head downwards, by the flying male. They were still coupled when inspected at midnight, but had separated by 7 a.m. the following morning.

On the 18th. February at about 5.30 p.m., another mating was observed; this time a recently emerged, tagged female with an itinerant, untagged male. Again, the female insect was carried by the male, and the insects remained coupled for a similar period.

At the time of writing this note (20.iv.74), butterflies are still emerging, both outside in the garden and indoors, but no larvae are to be seen.

* 96 Shannon St., Box Hill North. V. 3129.

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THE OCCURRENCE OF THE GRASSHOPPER
BERMIUS BRACHYCYERUS Stål.

(Orthoptera: Acrididae, Oxyinae.) In Victoria.

By P. Holbery.

While collecting on March 31st, 1972 at the junction of the Ovens and Buckland Rivers near Porepunkah, North Eastern Victoria, the author found six grasshoppers which appeared to be Bermius brachycerus. In the hope of confirming this, Rehn (1957) was consulted, but the results were seemingly negative as neither this nor any other species of the genus Bermius had been previously recorded from Victoria. The grasshoppers were mounted and put away, but not forgotten; the doubt persisted.

Early in 1973 the specimens were taken to the National Museum (Melbourne) for identification and found to be Bermius brachycerus. A pair (male and female) were retained by the museum.

Later that year on the recommendation of Mr J.F. Hutchinson the advice of Dr.K.H.L. Key, Curator of Orthoptera, C.S.I.R.O., Canberra, was sought on the occurrence of B. brachycerus in Bictoria. Dr. Key knew of no published record of this species from Victoria, and a male and female were sent to Canberra for the Australian National Insect Collection.

Towards the end of 1973 the author noticed a female grasshopper in the Orthoptera collection of Paul Tippelt and Ray Besserdin that looked as though it belonged to the genus Bermius. The specimen had been collected on February 2nd, 1970 by Ray Besserdin, at Swan Hill, Victoria. The insect, too, was identified by the National Museum as Bermius brachycerus. It was not until Easter 1974 that the author collected more specimens of this species. They were found at Harrietville (27 km S.E. of Bright, N.E. Victoria) on the banks of the Ovens River, also at Porepunkah on the banks of the Buckland River about 1 km from its' junction with the Ovens.

Bermius brachycerus has been recorded from as far north as Townsville Queensland down the east coast to about Woolongong, also in the Great Dividing Range, parts of central New-South Wales; the A.C.T. and northern Victoria at Harrietville, Porepunkah and Swan Hill. This grasshopper was found to occur on clumps of a tall sedge growing right next to, or in the water. It is a medium sized insect, ranging from about 24 mm - 36 mm. The dorsal surface, including the tegmina, is brown, whilst the ventral surface and parts of the lateral surfaces are green. In some individuals the pronotum is green dorsally. The two colours (green and brown) are separated by a thin, butter-yellow stripe. The hind wings are clear.

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Acknowledgements

I would like to thank the National Museum, Dr.K.H.L. Key and Mr J.F.Hutchinson for their help.

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Rehn, J.A.G. (1957) 'The Grasshoppers and Locusts (Acridoidea) of Australia. Vol. III - Acrididae: Subfamily Cyrtacanthacridinae. Tribes; Oxyini, Spathosternini, and Praxibulini.' (C.S.I.R.O. : Melbourne).

Cochrane, Furher, Rotherham, Willis. (1968) 'Flowers and Plants of VICTORIA.' (Reed).

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A NEW RECORD FROM DARTMOUTH

A new record for the bug Coptosoma sp. (Family Plataspidae) has been confirmed by Mr Gross of the Adelaide Museum. Two specimens of the bug were captured by the Dartmouth Dam survey Team from the National Museum of Victoria on 3rd December 1973.

Mr. Gross said insufficient was known about the genus for him to be able to identify the specimens as far as species. He believes that the bugs are probably just a blow-in due to the unusual season and thinks it doubtful that they are actually established in the area.

Helen Malcolm
Ass. Curator of Insects,
Nat. Mus. of Vic.

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AUSTRALIAN ENTOMOLOGICAL SOCIETY STUDENT AWARD 1974-5

The Australian Entomological Society has sent information on its Student Award essay competition for 1974-5. The competition is open to undergraduate or honours students at Australian Universities or Colleges. Entrants are required to submit an essay of up to 5000 words on one of four specified topics ranging from pure to applied entomology. Entries must be submitted by 31st Dec., 1974, and the Secretary of the A.E.S. must be advised of intention to enter by 31st October, 1974. First prize is \$150, and second prize is \$50. Further details are available from A.D. Bishop.

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MEMBERSHIP LISTS.

Many members have yet to return the data slip included with the last issue of the Journal. On this slip, a request is made for information regarding your interests, type of membership &c. If you have yet to return this data to the Society, you might also add your phone number, provision for which was

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inadvertently omitted.

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RESIGNATION OF OUR SECRETARY.

The Council were disappointed, but not surprised, to learn of the resignation of our Secretary, Shane McEvey, with whom they have enjoyed working over the past twelve months or so.

Many members may not have realised that Shane is now in the midst of his Matriculation examinations, and in addition to keeping track of his own work, has somehow managed to keep the Society's interests up to date. This has been his first experience as an office-bearer, and it is to his credit that he has been able to attend so many meetings, and keep both the Council and Publications Committee in touch with the expanding activity of the Society. The Council wish to express their thanks to him, and wish him every success in the forthcoming examinations.

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ABNORMAL INSECT OCCORRENCES.

A gratifying number of reports have already been returned, incorporating records of many insects normally restricted to habitats far to the north. These records apply not only to the Lepidoptera, but Coleoptera, Hemiptera and other orders.

Would members assist early preparation of a summary by sending in as soon as possible any information they may be holding.

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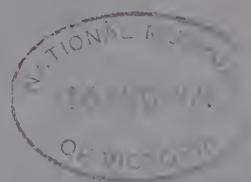
ARTICLES FOR PUBLICATION.

At the June meeting, office-bearers for the next twelve month period will be appointed. The present Publications Committee have been hard-pressed to locate sufficient original material for publication on many occasions. This situation has eased a little with the recent growth in membership, but papers (other than taxonomic) articles and notes, of general interest, and dealing with any aspect of entomology, are now urgently required. Many have been promised, but have not eventuated. Please assist the new Publications Committee in their task of giving members some new food for thought and investigation.

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The ENTOMOLOGICAL SOCIETY of VICTORIA

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's bi-monthly journal, the "Victorian Entomologist". Excursions are arranged to areas of topical interest at intervals, mainly during the warmer months. Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings for 1974 will be held at Clunies Ross House, National Science Centre, 191 Royal Pde., Parkville, at 8 p.m. sharp, on the second last Friday of even months, commencing with the Annual General Meeting in February. Visitors are always welcome.

Annual Subscriptions:

	\$
Ordinary Member	3.00
Country Member	2.00
Associate Member	1.00
Junior or Student	1.50

(Associate members do not receive the journal.)

Notwithstanding the rates shown herein, rising costs and rates of postage, &c. may at some stage necessitate an increase in annual subscriptions

The statements and opinions expressed in articles herein are the responsibility of the respective authors, and do not necessarily indicate the policy of the Society.

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Councillors: Messrs F. Hallgarten, O.H. Rogge, R. Manskie,
Mr & Mrs. G. Burns.

Diary of Coming Events

August 23rd, 1974: GENERAL MEETING. Subject to prior notification, this meeting may be declared an Extraordinary General Meeting for the purpose of obtaining approval for several detail amendments to the Constitution. Speaker will be Dr D.M. Churchill, Director, Royal Botanic Gardens and Herbarium, Melbourne, who will discuss some further aspects of grid-mapping, and problems likely to be encountered in such programmes.

October 18th., 1974: GENERAL MEETING.

November 2-5 inclusive: (Melbourne Cup Weekend.) Various members will be re-visiting the 'Desert' areas for continuation of surveys already undertaken and general collecting. Those requiring transport are advised to make early arrangements.

November 30th, 1974: Excursion to Launching Place. General.

December 13th, 1974: GENERAL MEETING and Members' Night. Light refreshments will be available.

Reports & Notices

Minutes of the ANNUAL GENERAL MEETING: June 21st, 1974, held at Clunies-Ross House.

The meeting was chaired by the President, Mr Charles McCubbin, who, as is customary, extended a sincere welcome to new members, to those attending for the first time, and to several visitors. Apologies were received from Messrs D.E.A. Morton, W.N.B. Quick, J.F. Hutchinson, Mr & Mrs. J.C. Le Souëf and Misses Elizabeth Matheson and Helen Malcolm. A report of the last Council meeting, together with a Secretarial Report for the extended 'year' of 1973-1974 was received from the Acting Secretary, N. Quick, and was read to the meeting by Mr McCubbin. The report is reproduced at length elsewhere in this issue.

The meeting was then pronounced open for the purpose of election of new office-bearers for 1974-5. Mr D.F. Crosby becomes our President once again, with Mr David Holmes and Nigel Quick as Vice-presidents. Hon. Secretary is now John Hallgarten, Mr Charles McCubbin the Assistant Editor, with Ray Besserdin as Editor. Councillors are: Messrs F. Hallgarten, O.H. Rogge, R. Manskie and Mr & Mrs. G. Burns. Mr R. Condron consented to make himself available for a further term as Hon. Treasurer and was re-elected unopposed, while Mr J.F. Hutchinson, at present in the Northern Territory, will resume his duties as Librarian and F.R. Officer on his return.

Owing to difficulties encountered in getting stencils typed, and postal disputes, the subsequent posting of the Journal was unavoidably delayed, and where possible these were distributed at the meeting. The minutes of the previous meeting were therefore read, their acceptance moved by Mr D.F. Crosby and seconded by Mr D. Holmes.

The Treasurer reported a credit balance of £229.86, with a total of 88 members financial. In recognition of his unfailing interest in the proceedings and indeed the very existence of the Society, and a lifetime devoted to the promotion of entomological interests, Mr J.C. Le Souëf, in a motion proposed by Mr Charles McCubbin on behalf of the Council, and seconded by Mr Crosby, was elected as an Honorary Life Member of the Society.

The meeting was then handed over to Mr Nicholls, our guest 'speaker' for the evening. After a brief introduction, Mr Nicholls then presented a series of excellent films, all beautifully produced and faultlessly recorded. Subjects included Wilson's Promontory National Park, early stages in insect life cycles, garden insects, and the nesting of Dusky Wood Swallows. As a finale, a cartoon was included for the younger members.

Exhibits: Mr M. Schwarz displayed an interesting section of his well-arranged collection of Australian Apoidea (native Bees) in conjunction with a section of Mr P. Holbery's increasingly

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important collection of Orthoptera, the Grasshoppers.

COUNCIL MEETING: July 25th., 1974, at Clunies-Ross House..

Present: Messrs. D.F. Crosby, J. Hallgarten, N.Quick, R. Bossardin, O. Rogge, R. Manskie, C. McCubbin, Mr & Mrs G. Burns. Apologies were received from Messrs. F. Hallgarten, R. Condron, and D. Holmes, Mr. Hutchinson still being on extended leave.

A report provided by the Treasurer showed a credit balance of £237.37, with a total of 92 financial members.

The adoption of a grid system on which the Society should base its own data storage was discussed. In order to ensure compatibility with State and National data, it was decided to postpone any move until after the forthcoming address by Dr D.M. Churchill, and a possible report towards the end of the year by Arturs Neboiss.

The initiation of a programme which will culminate in the production of a census of the Victorian insect fauna was discussed, particularly in relation to the levels to which it could at present be taken, the facilities which would be required, and the possible sources of finances to fund such an undertaking.

Council's attention was drawn to the desirability of encouragement of younger members to extend their knowledge of the groups in which they had developed an interest. A supplementary meeting is to be added to next year's Calendar. This will take the form of a display by the younger members, for which it is hoped to be able to supply, on loan, uniform display cases. It was also suggested that an award be made available to a junior member whose approach and handling of a set project attained the highest standard in such matters as attention to detail, correctness of identification, presentation and scope. Recalling just how much help and encouragement they had received from visits to the home of the late 'Ras Wilson and others, some councillors suggested that this approach could do much to assist the younger members, particularly in respect of handling, setting and identifying some of the lesser groups.

Name-badges will be provided at the commencement of meetings as from August, 1974. These will be handed to each member on arrival, and should be replaced in the box provided on departure.

Mr. C.W. McCubbin shall remain the Society's representative to the Australian Entomological Society.

It was decided that an attempt should be made to obtain the services of a typist, or student typist, on a casual basis, to assist in cases of emergency. The Society could at present offer payment at the rate of only 50c per quarto page, and provide the necessary stencils.

Reports & Notices: (Cont.)

In relation to reproduction within the Journal of synopses of lectures presented by guest speakers, it was decided that a resume be obtained from the speaker, or permission obtained to record the lecture in whole or in part, thus relieving the Secretary of a considerable burden.

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Secretary's Report.

1973 - 1974

Mr N. Quick, filling in as Hon. Sec., tendered his apologies to the Society, and requested that the following report be read at the Annual General Meeting of June 21st., 1974.

Since the last Secretary's report, eighteen months have slipped by. The significance of this may perhaps elude the majority of members, but for the Council and Publications Committee the additional six months term of office has caused some strain.

Shane McEvey, our last Secretary, was forced by pressure of studies to resign his position as from the April meeting, at which the change-over date for elections was finalised. Anthony Bishop, involved in third-year work at Melbourne University, has somehow managed to find time for editorial duties, but will of course be unable to stand for re-election to the office of Editor.

This then is neither truly an annual report, nor is it a Secretary's Report. Compiled for the Editor, by a Vice-president who is filling in as Acting Secretary, it incorporates also material from the Publications Committee. In essence, it is in fact a Council Report on the last eighteen months.

The Secretary's position is now a far cry from the dual and often chaotic rôle of Secretary-Editor of a few years back, and in addition to requiring attendance at monthly meetings, now involves considerable correspondence at all levels. For the guidance of those about to seek the position, the duties of a Secretary are summarised within the Constitution.

The Editor now handles both a greater variety and, hopefully, a greater volume of material than ever before, but must maintain an awareness of the limitations of young authors. He is additionally responsible for initial invoicing (to the Treasurer) for all advertising, and for initiating working bees for collation packing, addressing, and mailing of the Journal.

Production of the Journal, which has rested somewhat heavily on the shoulders of staff at the National Museum, and certain members, ideally requires the Editor to have his or her own transport. By no means the least of the Editor's tasks has been

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the collection of sufficient original material for publication. In this respect we have been fortunate in the standard, if not the quantity, of material received. Comments on the Journal which have filtered back to the Council must be the Publications Committee's reward no more than the various authors'. But if the content of the Journal is to be maintained or, hopefully again, increased, then perhaps those members who felt a pang of disappointment on receipt of a 'lean' issue might stir themselves a little and take up a pen. If they are entomologists, they have an interest in which they are actively involved. Their activities, discoveries or ideas will interest others.

During the period of this report, the Society has been fortunate enough to have gained the support of a second regular advertiser. We trust that they in turn have also gained in the process. To both of them we extend our thanks. Support for the 'classified' section "At Your Service" has not been forthcoming to the extent anticipated. Perhaps few members are aware of the availability of space and the low cost.

Membership which in any Society is prone to drop off dramatically at the end of each financial year was retained at a gratifying level. Efficiency in Journal production, and the effort of those who assist, have enabled us to keep subscription rates at a minimum, although slight increases have been announced for 1975. These, if inflation does not rob us of the advantage, may provide a small surplus to be applied towards future publications of the Society, and the ultimate purchase of a vari-type typewriter or duplicator by the Society.

The Publications Committee recently adopted the use of envelopes for mailing the Journal, and hope that the time saved has been matched by an improvement in the condition of the Journal on delivery. Postal delays have not unfortunately assisted in regular receipt.

Our Constitution has been modified and updated in a number of small respects, in which experience and growth shewed it to be wanting. This must be a continuing process, but the minor nature of these changes, and the stability of the Society, must be indicative of the functional soundness of the Constitution as originally drawn up.

In summary, growth of the Society has continued, accompanied by a degree of 'maturity' achieved without loss of prestige or sacrifice of the interests of young members. And with all members, young or old, hobbyist or professional, rests the responsibility of assuring the future success of the "Victorian Entomologist".

W.N.B. Quick.

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The Retiring Editor's Report

The last two years have been a period of stabilisation for the "Victorian Entomologist". At the start of 1973 the means of production of the journal unexpectedly had to be changed drastically; this upheaval was survived with minimum visible damage, thanks to the efforts of several members who made available much time at this difficult stage, and Vol. 3, No. 1 duly appeared. Since then various refinements have been made in both format and production, so that the preparation of each issue is now a considerably less arduous task than it once was.

There are, however, undoubtedly more improvements to be made. Perhaps the most pressing need is to make long-term arrangements for typing, either by having a roster of volunteers within the Society, or by engaging an outside typist. Duplicating of the Journal is at present being done on our own paper, mainly by the National Museum, a service for which we are most grateful. Eventually, however, the Society should aim to have its own duplicator to avoid the worry and uncertainties of 'outside' facilities. When this has been accomplished, the "Victorian Entomologist" will have achieved a large degree of independence.

A further problem is bound up with the very nature of the Journal. A periodical such as this has two broad functions. The first of these is to provide members with a means of communication with others. For this purpose a Diary of Coming Events is published, a list of members is printed at intervals, and a "Service to Members" section is provided; this latter facility, which could be extremely useful, has, however, so far been almost completely ignored. The second function of the Journal is the recording of information to make permanently available the observations of contributors. It is here that the problem lies. Articles have never come in deluges or torrents, but lately the trickle that has sustained us over the last year appears to be in imminent danger of drying up. As membership is continuing to increase, it is hard to explain why there should be such a noticeable lack of contributions to the Journal. Furthermore, those few which are received are almost invariably devoted to the butterflies; it would be most refreshing, and gratifying to all readers if some of the members with interests in other groups could share their observations. It is hard to see the "Victorian Entomologist" continuing in its present form if more articles are not received.

The Publications Committee is not solely concerned with the production of the Journal. Recently it took the first steps in initiating what will probably be the most monumental task undertaken by the Society: the compilation and publication of a list of all insect species recorded within Victoria. This will take a number of years, a great deal of work, research, and not inconsiderable expense. If done well it will be a very significant contribution to our entomological literature. The compilation of such a census is of course one of the original

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aims of the Society, and it would be most gratifying to see the project completed.

Finally, a few words about the Publications Committee itself. While Editor, I have worked largely on the principle that decisions should be made where possible by the Publications Committee as a body, not by the Editor alone. Similarly, all the work that goes into the preparation of the Journal is very much a combined effort by the whole committee. In this regard the members of the committee during my term of office have given most generously of their time and help. On numerous occasions they have, at a day's notice, come to last-minute collating sessions, have made transport available, have obtained stocks of 'editorial materials', and, when necessary, have undertaken production of the Journal in the absence of the Editor. I hope my successor will have the backing of a Publications Committee equally as efficient.

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Be Prepared !

The Following is a Notification of Service Charges to be made at the National Herbarium, Melbourne.

The Hon. Minister of Lands, Mr W.A. Borthwick has directed that the Royal Botanic Gardens and National Herbarium introduce a service charge for the identification service and answering queries.

The new policy will begin on 1st. July, 1974. The charges - based on 1972/1973 costs - will be \$1.75 per specimen identified. For queries, charges will be based on time spent at the rate of \$7.00 per hour, minimum charge \$2.00

When sent by post payment should be made either by cheque or postal note, but not by stamps. Cheques should be payable to "The National Herbarium of Victoria".

The charges will not apply where a person donated specimens of taxonomic value, or of some other particular interest to the Herbarium.

(Dr.) D.M. Churchill
Director and Government
Botanist.

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Having had a few specimens at the Herbarium awaiting determination for almost three months, I can not help wondering if they constitute a 'query' -- \$15,000 is a bit steep for a few grains of information ! -- Act. Ed.

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High & Mighty

The following letter has been forwarded to the Editor by the Curator of Insects, National Museum, Melbourne, to whom it was originally directed.

Dear Sir,

Bogong School Camp,
BOGONG. V. 3699.

I am writing to inform you of an unusual, I think, butterfly record at Bogong Village. Bogong is located at 2,300' (700m) in the Kiewa Valley, Greenwich co-ordinates 38°49'S 147°14'E.

This summer we captured several specimens of the Four Tailed Emperor - Polyura pyrrhus sempronius.

Early in March I observed two larvae of this species on a Cootamundra Wattle (Acacia baileyana) which had been planted here last year. On March 10th. they pupated and I removed one pupa, together with the stem to which it was attached, and placed it in an insectarium. It hatched on 10th. April. On this day I went and checked the other, still attached to the tree, and it had hatched. I later found it on the ground under the tree, partly eaten.

I have not recorded this species here in the previous three summers and D'Abbrera's book gives its distribution as reaching southern N.S.W. but not North Eastern Victoria.

Yours faithfully,
BOGONG SCHOOL CAMP,
Allan J. Marsland

Southern Limits ?

by G. Turley *

It may be of interest to collectors to read that specimens of Papilio agamemnon ligatus (Roths.) have been netted in the Rockhampton area.

As a collector who lived in Atherton for three years, and who, after moving to Rockhampton, despaired of collecting or even seeing this fine species, I was encouraged by reports¹ that the species had been seen on occasions at Yeppoon, the coastal resort 42 km east of Rockhampton.

On March 9th., 1974 at Yeppoon, I caught a male of the species, and the following weekend, in the same clearing adjoining a patch of dense scrub, a second male was collected by my nine-year-old son. Two further sightings of P. agamemnon were made on subsequent occasions by Mr Andrew Atkins and myself. We have not

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yet been able to locate its food plant.

Information available regarding distribution of the species suggests that Mackay appears to be the southern limit of its range, but certainly the species has bridged the uninviting barriers between Mackay and Rockhampton.

At Byfield, a Forestry Reserve about 34 km north of Yeppoon, A. Atkins and I captured a dozen specimens of Mycalosis perseus (Fabr.) The first was taken amongst long grass between the rows of pines and the remainder in scrub country near a stream. I venture the opinion that they are fairly well established in that area, as further specimens were seen but not taken.

To my knowledge, M. perseus has not previously been recorded south of Mackay, its southern limit corresponding with that of P. agamemnon.

On the same excursion, a male P. agamemnon was collected by A. Atkins in a patch of rain forest at Byfield. I trust that this information regarding distribution of these species will be of interest to all those who wield the butterfly net.

* 99 Rodboro St., Rockhampton. Q. 4700.

Footnote:

¹ Nigel Quick mentioned to Messrs. Turley and Atkins that several specimens of P. agamemnon had been seen at Hedlow Ck., approximately midway between Rockhampton and Yeppoon, on the morning of Feb. 24th. Only one of these was positively identified, and other sightings may have been the same insect. A small collection made in the area contained two male M. perseus.

-ooOoo-

The foregoing two notes are to be incorporated in a summary of abnormal insect occurrences during the last eighteen months. The summary, originally relevant only to Victorian areas, is being extended to cover other localities in which similar phenomena have been noticed concurrently. The summary will appear in an early issue of the Victorian Entomologist, and acknowledgment made to informants at that time. The acting Editor meanwhile wishes to thank all those members who have so willingly co-operated in providing data.

-ooOoo-

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Under the Mistletoe.

by J. J. B. Quick†

Earliest of the many superstitions and legends regarding the mistletoe is that recorded by Pliny, who noted that the ancient Druids held this plant in the highest veneration. Oak forests were the favoured retreat of the Druids, and whatever grew on that tree was regarded as a gift from heaven, more especially the mistletoe. When found, it was cut with a golden knife by a white-robed priest, two white bulls then being sacrificed on the spot.

Whatever the reason for this veneration, it was certainly not related to the preservation of any associated insect species, and today, in our own country, 'white-robed priests' are too often present in the form of municipal workers, while certain of our endemic fauna is in danger of replacing the two white bulls.

Perhaps our own 'white-robed priests' may be partly excused for their action, for mistletoe has an unfortunate reputation as a tree-killer. All too frequently it is meticulously eradicated from trees in gardens, parks and reserves. The intent is commendable, but largely without foundation, for the mistletoe is seldom responsible for the death of its host. Occasionally, where extensive clearing has left only one or two trees standing, often in a small reserve, median or roadside strip, an artificially high and excessive concentration of mistletoes does in fact occur, and will under some conditions endanger the host trees. By contrast, certain Eucalypts are subject to defoliation in some years by insect predators. The mistletoes, not being attacked, remain as green foliage, and if not actually capable of return of the products of photo-synthesis to the host, at least maintain a more stable rate of sap-flow within the host.

The Australian mistletoes are a remarkable group of plants, not only for their diversity of form, their host mimicry, or sometimes spectacular flowers, but for their very existence. As far as is known all our mistletoes are dependent on birds for proliferation, most of them largely on the one species; the Mistletoe-bird or Flower-pecker, *Dicaeum hirundinaceum*. Seeking the sweet juices of the ripe berries, the birds consume all but the thick green outer coat of these. The true seed is not digested, and is ultimately voided, apparently without loss of its viscid coating. Save for the curious habit of the bird in perching diagonally across a branch, these voided seeds would almost invariably drop to the ground and be lost. It seems likely however that other species of birds may also be involved, sampling the berries, and finding the sticky seed unmanageable, wiping them off on a branch, where some may well germinate.

The little Mistletoe-bird, in spite of the rather brilliant plumage of the male, is seldom noticed. Its very existence is overlooked by, or unknown to many, yet it is in its own right a thoroughly useful and beneficial constituent of the ecosystem,

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consuming its share of insects as it forages amongst the branches.

Little information is available on the pre-requisite conditions for the germination of mistletoe seeds. Many times I have tried without success to establish a plant on Eucalypts and Acacias in the garden. J.F. Hutchinson has experimented with grafting onto young trees, also apparently without success. Yet I can remember as a youngster, perching several seeds on a branch of Quercus palustris in my parents' garden, and having one develop quite rapidly into a healthy young plant. I can not recall the species involved, but presume it was Amyema pendula, or as we then knew it, Loranthus pendulus.

Germination may be controlled by a number of rather critical factors. For example, a persistent bark is far more likely to retain moisture, germinating seeds, and young plants, than is the annually-dehiscing bark of some trees. Each species is probably intricately adapted to seasonal changes in relative humidity, frequency of night dews, and rainfall, as desiccation of germinating seed has accounted for most of my own experiments. The climate in my own garden is certainly drier, and the conditions more exposed, than those prevailing in my parents' old garden. A polythene sleeve, as used in aerial layering, might prove to be the answer to some early difficulties.

To those of us who have developed an interest in the Lepidoptera and Coleoptera, the ubiquitous mistletoe is recognised as a host for many specialised insects, the most spectacular of which are undoubtedly the butterflies belonging to the genus Ogyris, amongst which are found the most brilliant colours of the insect world. Larvae of most members of the genus are associated with ants, some with a particular ant species, others with any one of a number of species, but without the attention of which the larvae will perish. Ogyris idmo, apparently the most primitive of present day species, is even more directly reliant on the presence of the ant Camponotus nigriceps. Indications are that its larvae are carnivorous, feeding either on ant brood, or on food scavenged by the ants. Survival of these species is therefore linked not only to the preservation of the avian fauna and mistletoe-bearing woodlots, but also with the retention of adequate and unspoiled forage areas, from which the ants are able to obtain such essentials as grass seed, honey-dew, water and insect prey.

In some areas the diversity of mistletoe species present is quite remarkable. In the remnant open forest areas to the north of Dubbo, N.S.W., it is not unusual to find three or even four species present on a single Casuarina tree, with at least one additional species present on the Eucalypts. The east coast supports many species, including the curious little 'Golden Mistletoe', Notothrixos subaureus, itself a parasite of Dendrophthoe vitellina, a common mistletoe found growing on many species of host trees. Further to the north there are a number of additional 'secondary' mistletoes and mistletoe-like plants.

It is in the Millmerran - Warwick - Toowoomba area of

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southern Queensland however that the entomologist will find the most astonishing and intriguing concentration of Ogyris species associated with mistletoes, together with their ant 'groomsmen'. Just recently I was fortunate enough to have a couple of hours in an area south of Leyburn, where Amyema (?) miquelii abounds, sometimes supporting an unidentified 'secondary'. In a fissure of the bark of a small ironbark supporting a large clump of A. miquelii, I located the remnants of two pupal shells which I was unable to identify. These were still being tended by the small black and brown ant Froggatella kirbyi. The small size, dark colour and elongated abdominal segments of these shells suggested a species of Hypochrysops, although it is more likely that future comparison will show them to be those of Ogyris ianthis with which F. kirbyi is associated.

For an hour or more, I combed the bark of that tree, and succeeded in finding a larva on the point of pupation and a live pupa. As pupae, these were perhaps a little larger, paler, and less elongate than the shells I had found. Both were being half-heartedly tended by the ants. Across the road, two further pupae were found, one under bark at the base of a tall ironbark, the other in debris at the foot of a gum-topped box (E. hemiphobia). Both these pupae were very much larger, and more characteristic of those of the O. olane group. Neither was attended by ants.

Time ran out, and I had to content myself with these findings and await their emergence. Unavoidably, I had to carry them in the car with me for another 1600 km before I reached my destination, and then for the 3600 km return trip. Just prior to the commencement of my return, the first pupa was showing signs of impending emergence. Some apprehension regarding the effect of vehicle vibration was unfortunately well-founded, and although identifiable, the insect failed to expand its wings fully. It was a diminutive, but otherwise quite typical O. orocetes. A day later the second of the small pupae emerged successfully, producing an equally diminutive and typical O. olane ocela. Only after my return did the remaining two, and larger, pupae emerge as a pair of quite normal O. olane ocela.

Ogyris olane is not normally attended by ants, and indeed the larger pupae were unattended. O. orocetes is usually attended by one of several species of ant (including F. kirbyi), and being almost invariably found in company of other Ogyris species, is tended by the ant relative to the second species. The presence of Froggatella kirbyi then could indicate the former presence of a third species with which it is normally associated, rather than being indicative of a primary association with either O. orocetes or O. olane.

One wonders too what effects could have produced such a reduction in the size of the two small pupae. The presence of normal-sized pupae barely 100 metres distant, the sequence of pupation, and of emergence would seem to rule out any consequence of the abnormally-cold winter. Neither was there any shortage of

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suitable young foliage on the host plant. The only explanation would appear to be linked somehow to the presence of the attending ants. Do they, 'programmed' to acceptance of the smaller mature larvae of (?) Ogyris ianthis, cease to guide the larvae to the host after they reach 'acceptable' dimensions ? Are the larvae in actual fact dependent on guidance to locate the host ? It would seem unlikely, as O. olane in particular, is not normally tended by ants.

It is possible, and perhaps more likely, that the larvae themselves do become conditioned to the guidance of the ants to an extent. At the onset of the winter cold, Froggatella kirbyi becomes relatively inactive, even during the day. This situation would not affect O. ianthis, larvae of which would either have already pupated or be on the point of pupation, but would put other 'conditioned' larvae of slower-developing species at a disadvantage. Or was it sheer coincidence ? Whatever the case, a great deal has yet to be learned regarding these associations, and the host plants of the larvae concerned.

20 Alimar Rd., Glen Waverley. V. 3150.

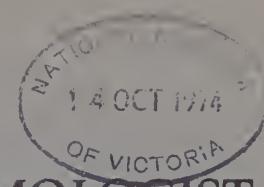
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An Apology to Our Hosts.

The Ian Clunies-Ross Memorial Foundation, at which our meetings are held, was for some obscure reason omitted from the list of institutions to receive complimentary copies of the "Victorian Entomologist". The acting Editor wishes to extend the Society's apologies for this oversight, which has now been corrected.

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THE
VICTORIAN ENTOMOLOGIST



Journal of
The ENTOMOLOGICAL
SOCIETY of VICTORIA

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The ENTOMOLOGICAL SOCIETY of VICTORIA

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's bi-monthly journal, the "Victorian Entomologist". Excursions are arranged to areas of topical interest at intervals, mainly during the warmer months. Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings for 1971 will be held at Clunies Ross House, National Science Centre, 191 Royal Pde., Parkville, at 8 p.m. sharp, on the second last Friday of even months, commencing with the Annual General Meeting in February. Visitors are always welcome.

<u>Annual Subscriptions:</u>	\$	Notwithstanding the rates shown herein, rising costs and rates of postage, &c. may at some stage necessitate an increase in annual subscriptions
Ordinary Member	3.00	
Country Member	2.00	
Associate Member	1.00	
Junior or Student	1.50	

(Associate members do not receive the journal.)

The statements and opinions expressed in articles herein are the responsibility of the respective authors, and do not necessarily indicate the policy of the Society.

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The reproduction of taxonomic papers within this Journal shall not constitute formal publication.

ENTOMOLOGICAL SOCIETY of VICTORIA

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Councillors: Messrs F. Hallgarten, O.H. Rogge, R. Manskie,
Mr & Mrs G. Burns.

Immediate Past-President: Mr C. McCubbin.

Diary of Coming Events

October 18th., 1974. GENERAL MEETING, Clunies-Ross House at
8 p.m. sharp. A panel will detail information on
basic entomological techniques, and be available for
answering questions. Especially orientated towards the
younger members and those contemplating field entom-
ology involving handling and preservation of material.

November 2-5 inclusive: (Melbourne Cup Weekend). Various
members will be re-visiting the study area for cont-
uation of surveys already undertaken, and further
collecting. Those requiring transport are reminded to
make early arrangements. There is no shortage of
water in the area, other than for drinking.

November 30, 1974: Excursion to Launching Place. General.
Suggested Meeting-place: Service Road, Whitehorse
Road, Box Hill OPPOSITE Fire Station, 9 a.m.

December 13th., 1974: GENERAL MEETING and Members' Night.
Coffee. Members requested to bring a plate.

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Reports & Notices

Minutes of the General Meeting: Friday, August 23rd., 1974,
held at Clunies-Ross House.

Mr D. F. Crosby chaired the meeting, which was attended by 37 members and friends. A sincere welcome was extended to visitors and those attending for the first time. Apologies were received from Messrs. A. Neboiss, C. McCubbin, D.E.A. Morton, and Miss Helen Malcolm.

The meeting was then declared an Extraordinary General Meeting for the purpose of Constitutional Amendments as detailed in a supplement to the August issue. As all members have received a copy of the proposed amendments, these are not repeated at length. The amendments, those members moving their acceptance, and seconders are as follows:

Item 3 (i) Redefining Student Membership:

D. F. Crosby: J.C. Le Souef.

(ii) Defining Associate Membership:

D. F. Crosby: R. H. Besserdin.

(iii) Defining Honorary Life Membership:

D. F. Crosby: W. N. B. Quick.

(iv) Defining Life Membership:

D. F. Crosby: W. N. B. Quick.

The remainder of the amendments, dealing mainly with Office Bearers and their associated duties, were considered together.

Item 7 Delete the words Vice President and substituting the words Two Vice Presidents.

Item 9 The Treasurer shall: Delete section (f) in entirety.
The Editor shall: Delete section (c) in entirety.

Item 12 An amendment concerning notification of members prior to declaration of an Extraordinary Meeting.

By-Law No 2: The deletion of the figures \$1.00 and substitution of \$2.00 as the minimum amount to be set aside from subscriptions for production of the Journal, and a pro-rata amount from Life Membership subscriptions.

All the above amendments were passed unanimously.

The Minutes of the June meeting were received and taken as read, having been published in the Journal. Resulting from the July council meeting, a special night for Student Members will be held each July in the future. Any members with ideas on how Junior (Student) members could be helped or encouraged, were asked to contact the President or Secretary.

Correspondence was received from:
Ian Clunies-Ross Memorial Foundation (Calendar of Meetings).

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Australian Entomological Society. Journal, June, 1974.

Australian Entomological Society. News Bull., August, 1974.

Entom. Society of Australia (N.S.W.). Circs., July, Aug., 1974.

Environmental Studies Assoc. of Vic.: Second Conf., A.C.F. Melb.

T.I.E.G. : Exchange Journal.

Publishers' brochures: Genetic Mechanisms of Specialisation in Insects: Experimental Analysis of Insect Behaviour.

Notification was sent to Mr J. C. Le Souëf on his election as an Honorary Life Member of the Society.

The President raised the following matters:

(i) The Australian Entomological Society's recent survey on Customs Regulation 13A. The result of this survey demonstrated the overwhelming opinion favouring repeal of the Regulation.

(ii) The move by the Queensland Entomological Society to restrict collecting of Papilio ulysses joesa and Ornithoptera priamus. Brief comment on the latter subject was to the effect that however commendable the motive, destruction of breeding habitat, particularly in the case of Ornithoptera was of more immediate concern.

The TREASURER reported a credit balance of \$233.19, with 93 members financial.

The meeting was then handed over to Dr D.M. Churchill, who presented a lecture on Grid-Mapping, and some of the problems encountered in Botanical records. This was a most instructive lecture on a subject in which Dr. Churchill has had a great deal of experience. At the conclusion, Dr Churchill answered a number of queries on matters likely to concern adaption to entomological records, after which the President expressed the Society's gratitude in a vote of appreciation. (A resumé of the lecture appears elsewhere in this issue - Ed.)

EXHIBITS: Mr R. Condron brought specimens of Delias harpalyce (the Imperial White butterfly), and pupae attached to a web spun on Amyema quandang, one of the mistletoes on which larvae of the species feed. Also exhibited were a number of Ornithoptera, and a commercially-produced table-cloth depicting a number of butterfly species.

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Council Meeting - September 4th., 1974.

Held at Clunies-Ross House, the Meeting was attended by the following: Messrs. D.F. Crosby (President), J. Hallgarten, W.N.B. Quick, O. Rogge, R. Manskie, R. Besserdin, D. Holmes, and Mr & Mrs. G. Burns.

Speakers for future meetings: Subject to his return from overseas, Mr Arturs Neboiss is to be asked if he would be able to address the February, 1975 meeting.

For the next meeting, October, 1974, a panel of up to five members will talk briefly on Basic Entomological Techniques, and be available for questions generated by their statements. This meeting is directed specifically at the younger members, as it has been felt that they frequently attended meetings without learning much of the basic entomological techniques which the more experienced members tend to take for granted.

CORRESPONDENCE RECEIVED: Journal from ECOS-CSIRO Environmental Research. Circular of the Entomological Soc. of Australia (NSW.) for August 1974.

TREASURER'S REPORT: The Treasurer reported a credit balance of \$247.99, and 93 members financial.

The Council discussed Grid-Mapping at some length, especially in the light of Dr D.M. Churchill's recent address. It was decided that the Entomological Society of Victoria must necessarily follow the system adopted by the National Herbarium. This has, at least initially, been based on the 1:250000 series of maps, the only series currently available. Further commitment was postponed until the Council learned something of the proceedings of the Data Bank Symposium to be held in Sydney on October 8, 9, & 10, and which is to be attended by Dr Perring. Problems associated with acceptance of records, and methods of field-recording were discussed in preliminary detail.

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EDITORIAL COMMENT

In recent issues a number of requests - even pleas - to members for material have produced little result. Even more disappointing has been the lack of support by members when the elections were held. For the last two issues of the Journal, the Society has had no Editor, and the entire production has fallen, rather unexpectedly, on an Acting Editor assisted by the President. Too many times, those involved in the past have failed to appreciate their rather simple responsibilities --- attending to the on-forwarding of copy and/or materials to those who will have need of them: advising those others concerned of any delays, and in some cases, even neglecting to ascertain their basic duties.

The publication, in this issue, of the up-dated Constitution may help refresh a few memories in the latter respect, but it is to be hoped that some constructive ideas might be put forward at the October General Meeting, that an Editor will be appointed, and a Publications Committee co-opted. The present Acting Editor will not be in a position to continue, and the continuity of production of the Journal is therefore in doubt.

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GRID - MAPPING.

A resume of an address by Dr. D. M. Churchill to members of the Society at Clunies - Ross House, August 23rd, 1974.

Introducing the topic of grid-mapping, Dr. Churchill noted that after some 200 years of taxonomic work in all fields of biology, compact yet retrievable recording of the resultant amassed data has now become a major problem in all disciplines.

Data relating to plant distribution, in particular, is desirable for numerous applications, such as soil-type mapping, mineral search (e.g. the association of Hybanthus and nickel), commercial timber production, and even in relation to the subdivision of land and many intrinsic biological programmes.

Resolution detail in older records often left a great deal to be desired, and much has been lost, unrecorded. To be of any biological value, detailed resolution is essential. Yet it is totally impracticable to describe at length the locality involved in each record of every biological entity. At the best any method of recording will be limited by the number of personnel available, and the more condensed, without loss of resolution, the more quickly it can be dealt with and stored in a retrievable form.

Condensed to colour-swatches on a map, distribution of any species is certainly recorded, but lacks resolution and gives a false impression of uniform distribution. Spot-records, dots on a map from field identifications made at uniform distances, not only give a better impression of actual frequency, but also suggest fringe areas and areas which may not have been investigated. The time and personnel involved in comprehensive surveys of this type are insurmountable problems in the botanical discipline, and impracticable to the entomologist.

However desirable dot-recording might be, the use of grids as an approximation is more practicable, and has the advantage that reliable, but older records may be incorporated into the system without excessive loss of resolution. It is, additionally, suitable for recording reliable data from museum specimens. Two to three lines of locality-descriptive text can be reduced to cyphers without gross loss of resolution, but finer resolution can be retained by the use of sub-cyphers. Patient collation of museum and collector records will be necessary. All doubtfully-correct or vague records must be totally rejected. An important point raised by Dr. Churchill here is that the lack of records from an unexpected area of ... generates a great deal of interest, and investigation of such areas is inspired. It is in this sphere that the amateur can assist greatly. The exploration is fun, and the possibility of obtaining new and important records is real.

The indisputable advantages of recording data on tape, especially in comparison with the bulk of data cards, was made quite clear. The merits and limits of available map scales, the resolution desired, and the manpower required for compilation of high-resolution data were then outlined. A fair impression of the man-hours necessary for recording high-resolution distribution information has been obtained from a project involving the mapping of the flora of the Dandenong Ranges at a resolution of 10' x 10'.

The only practicable map coverage of the Australian continent, either currently available or likely to become available is the 1 : 250000 series. These maps, covering an area of 1° x 1½°, can, for purposes of recording higher-resolution data, be readily cross-ruled to provide a grid of 10' x 10' areas. In concluding his address, Dr. Churchill referred briefly to a system he has developed whereby any such area of the continent may be identified by the use of only four cyphers. Should it be accepted by workers in other disciplines, the suitability of such a system for entomological records is very obvious.

-ooOoo-

The interest generated within the Society by Dr. Churchill's address has been very apparent. The acceptance of system is being anxiously awaited by the Society in order that data-recording may be initiated in conjunction with the proposed commencement of compiling a Victorian insect census. A tremendous task with many problems. The Council has anticipated this acceptance, or the acceptance of a basically-similar system, and has already prepared plans for the initial recording of data from both current field collecting and museum collections. It is unfortunate that localities given by so many early collectors including many of the most widely-known Victorian "pioneers", are too indefinite or unreliable to be acceptable. To eliminate a great deal of written material in perusing collections, it has been suggested that the Society consider purchasing a reliable but inexpensive tape recorder, which would enable direct entry on to data-cards to be made as convenient. Information attributable to each collector or collection would, in addition, be kept together in a compact form.

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NOTES ON THE INSECTS OF THE BIG DESERT (VICTORIA)PART TWO.

By: D.F. Crosby F.R.E.S.

Several articles have already been published about the fauna of the Big Desert. These have mainly concerned the Butterflies (LEPIDOPTERA) and details may be found at the end of this paper. However, in attempt to determine some of the other insects that occur in this interesting region, the author made a particular effort to catch a range of Wasps, Beetles and Moths during visits in September (15, 16) and October (27, 28) 1973.

A brief preliminary summary of those so far identified is as follows:

ORDER HYMENOPTERA

Wasps: Family POMPILIDAE:
Phanagenia sp., 3 females.
Family BRACONIDAE
3 males not identified.
Family TIPHIIDAE: Subfamily THYNNINAE
Rhagigaster spp. (2) 3 males, 1 female.
Zaspilothynnus sp. 2 males.
Hemithynnus apterus group 2 males,
4 females of spp. (3) (not Rhagigaster)

Ants: Family FORMICIDAE:
Camponotus (Myrmophyllum) sp.
Rhytidoponera sp.

The former ant attends the larvae and pupae of Ogyris otanes and is probably C. ferruginipes. The latter ant is black, of the same size as the former, and incorrectly thought to have association with Ogyris otanes.

The above insects were kindly identified by the C.S.I.R.O. Division of Entomology, Canberra.

ORDER COLEOPTERA

Beetles: Family BUPRESTIDAE:

Stigmadera spilota
xanthospilota
decemmaculata
elongatula
flavopicta
isospilota
abdominalis
punctotosulcata
jucunda
octomaculata
pallidiventis
vittata
Curis (?) behri
Melobasis (1) sp.

Family CLERIDAE: spp. (3) unidentified.

Family SCARABAEIDAE: spp. (2) unidentified.

Family CURCULIONIDAE: sp. (1) unidentified.

These beetles were identified by Mr. C.G.L. Gooding of Warragul, to whom the author is most grateful.

Literature:

CROSBY, D.F. 1972. Some Butterflies of The Victorian Big Desert. J. ent. Soc. Vic. 2(3) (June) pp. 5 - 7.

QUICK, W.N.B. 1973. The Big Desert - September 15-17, 1973. J. ent. Soc. Vic. 3 (5) (October) pp. 15-18.

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LIBRARIAN AND P.R. OFFICER

Several letters have been received from Jim Hutchinson who is still in the Daly River Mission area. Collecting has not, it seems, been as good as it might have been. He has, nevertheless obtained a number of very interesting species of Odonata, and the variety of material coming to lights is increasing as the warm weather returns.

Jim expects to be back home in Melbourne in time to go along on the excursion to the Big Desert in November.

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The Big Desert -- September, 1974.

Over the weekend of September 14-15, a brief trip to the study area was undertaken by Messrs. D.F. Crosby, D.E.A. Morton and W.N.B. Quick. Primary object was to locate plants of Adriana hookeri (Euphorbiaceae), the probable host of a Theclinesthes sp. (Lepidoptera: Lycaenidae) which has turned up in several collections from the area, and about which little is known.

It was also intended that a further search would be made for the elusive host plant of Gandalides cyprotus, special attention being given to Boronia caerulescens on this occasion. Several isolated colonies of Gahnia lanigera were to be checked for numbers and stage of larvae of Motasingha atralba, and the few plants of Choretrum spicatum known to have supported Ogyris otanes in the past, were to be examined for condition, and evidence of the presence of larvae and attendant ants. Additionally, it was hoped to obtain further specimens of a small Gandalides sp. which has been taken in the desert areas early in the season.

Unfortunately, subsequent to a favourable report on the condition of the Murrayville track, a great deal of rain had again fallen in the area, and the road had become extremely treacherous. If not immediately apparent, the treacherous nature of the surface was indicated by an overturned semi-trailer some 8 or 10 km. north of Yanac. A bulldozer being used to right the vehicle had effectively blocked the track and had to be side-tracked. Further to the north the surface deteriorated rapidly, making travel by four-wheel drive vehicles quite exciting, and by conventional vehicle even more so, as the writer soon discovered. Only thanks to repeated herculean efforts by the crew of the President's Land Rover was the writer able to reach the destination at all. Wheel arches became so choked with marl that suspension movement was all but eliminated, and steerage reduced on occasions to a few degrees. Parking the car at our destination could only be achieved by attaining a speed at which the vehicle could be slewed off the road and into the sand, in which some traction could be obtained.

The weather remained unpleasantly cold for the remainder of the first day, and several additional showers would not have assisted immediate return, as had been contemplated. Most of the remaining time was spent searching unsuccessfully for the distinct foliage of Adriana. The patches of Gahnia lanigera were carrying a few half-grown larvae of M. atralba and a number of shelters still contained relatively fresh pupal shells. Observations of the species in the past have been rather inconclusive regarding the time of appearance on the wing.

This situation has not been greatly clarified by the present check, but it would seem that there is ample evidence of both spring and autumn broods, both very diffuse, and the latter rather more prolific.

In spite of checking many many plants of Boronia caerulescens for possible traces of the presence of Candalides cyprotus, no sign of any stage of the species was found, and, as before, its host plant in this area remains a mystery. The plants of Choretrum spicatum, on which larvae and pupae of Ogyris otanes were found in seasons past, but which had suffered badly in the drought years and probably also from over-collecting, or associated disturbance, are now thriving. It was most gratifying to see just how effective the restraint by members, following the Society's voluntary 'protection' of the species, had been in enabling nature, with a little help, to heal its wounds. Three bushes now carry numbers of Jassids which the Camponotus ant tends in association with larvae of the butterfly. All three bushes bear traces of the presence of larvae.

Sunday proved a little more pleasant, with some substantial sunny periods, enabling some hurried collecting to be done prior to departure after lunch. The wind abated slightly, and a number of specimens of the small Candalides being sought were taken. The few other insects noticed included:

Vanessa kershawi (Lepidoptera: Nymphalidae)
Candalides hyacinthinus simplex (Iycuen.)
Nacaduba biocellata (Lepidoptera: Lycaen.)
Stigmodes vittata (Coleoptera: Buprestidae)
and a few Dragonflies (Odonata)

Each of these was represented by a very few specimens.

W.N.B. Quick.

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Members are requested to examine the new Constitution carefully, especially in regard to the categories of membership which are to be available for 1975. Specifically, those who will be most affected are present Country members, and such Junior members who will turn 18 before the end of the year.

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INSECTS OF THE VICTORIAN NATIONAL PARKSPART 1 - BUTTERFLIESBy: D. F. Crosby, F.R.E.S.^{*}Section A --- North-west

8th July, 1974.

Introduction:

This paper lists those butterflies positively identified in the various parks so far surveyed. In some cases records precede the formation of the particular Park (e.g. Little Desert) but are included where the points of collection are known to be within current Park boundaries. In some of the more remote areas it is often difficult to clearly define Park boundaries and records taken from areas in close proximity in contiguous bushland are included where it is felt the range of insects certainly extended within the Park itself.

The current survey indicates several quite interesting areas which clearly require intensive study, e.g. Wilson's Promontory, Wyperfeld.

For ease of reference the records are listed under the specific Parks. Where it is felt significant and it has been possible to describe the point of collection relative to a known land-mark, such has been noted.

There still being much to learn about the habits and life history of the Australian butterflies, notes on particular behaviour, food plants or habitat have been mentioned as thought relevant.

Nomenclature adopted is that used in "Butterflies of Australia" by Common and Waterhouse 1972 and the use of "common names" has been dispensed with as it is felt to be confusing. As a guide, the species for each Park are listed under the relevant families.

This survey is part of a programme being carried out for the National Parks Authority, and the collection of all insects has been done under a special permit issued for this purpose. The assistance of the Authority is gratefully acknowledged.

HATTAH LAKESFamily: HESPERIIDAE

Motasingha atralba atralba 23/9/72 - Small number of larvae and pupae recorded and 8 adults seen, 3 males netted. Larvae feed on Gahnia lanigera, making a small inverted tent-like shelter out of several leaves. There is a second brood in late March to early April, specimens recorded by the previous Ranger, cover the period 20th March to 19th April. The first brood extends from early September to early October, with this appearing to be the bigger emergence period. A chalcid wasp parasite was bred from one pupa, but parasitism does not appear to be prevalent. The species is not common as the food plant is very restricted.

Taractrocera papyria papyriaPAPILIONIDAE

Papilio anactus

Papilio demoleus sthenelus

PIERIDAE

Catopsilia pyranthe crokera

Eurema smilax

Dellias aganippe

Anapheis java teutonia

Pieris rapae

NYMPHALIDAE

Danaus plexippus

Danaus chrysippus petilia

Heteronympha merope merope

Vanessa kershawi

Vanessa itea

Precis villida calybe

LYCAENIDAE

Ogyris genoveva araxes

Ogyrisolane olane

Ogyris hewitsoni meridiinalis - On Casuarinas near Ranger's cottage.

Nacaduba biocellata biocellata

Lampides boeticus

Neolucia agricola agricola - End October.

Neolucia serpentata serpentata 6/4/63, 1 female at Lake.

Zizina otis labradus

Zizeeria knysna karsandra. This species is only taken near the lake from January through to May but is common in late March and early April when both sexes are flying, often near Glinus lotoides or Tribulus terrestris either of which could be the food plant. Common 6.4/62, both sexes.

Candalides hyacinthinus simplex 23/9/72 three males caught, near Cassytha which was obviously the food plant. This species is widespread in the drier areas associated with Cassytha and doubtless several colonies would exist apart from that near the main entrance of the Park.

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Candalides cyprotus cyprotus
Candalides heathi heathi

Note: Assistance of the former Ranger, Mr. N.H.E. McDonald is gratefully acknowledged in the compilation of this list.

WYPERFELD

Family: LYCAENIDAE

Nacaduba biocellata biocellata 5/11/60 common, associated with Acacias, near Eastern Lookout.

Neolucia agricola agricola 5/11/60 common but poor condition. Usually associated with flowers of native legumes.

Neolucia serpentata serpentata Fairly common 5/11/60

Theclinesthes onycha Fairly common on sand dunes on Western Boundary in May and June 1961. One very dark male taken 5/11/60. -May represent a different species which may have been feeding on Acacia. Some specimens were subsequently collected in March and appear to be the same as the May/June specimens and closely resemble other examples recently caught in October in the Big Desert area. All are completely different from the shining silky blue representatives from South Australia, where the food plant is Adriana klotzschii.

(The genus Theclinesthes is currently being reviewed.)

Candalides hyacinthinus simplex; Several specimens seen near Eastern Lookout in November. Specimens subsequently caught in March showed variable colouration similar to form josephina.

LITTLE DESERT

Family: HESPERIIDAE

Trapezites sciron eremicola Generally found on or near sand dunes in October and November. Females rare. The larvae feed upon Lomandra glauca, and pupate in shelters low on the plant. This species has a very interesting distribution having been recorded elsewhere (apart from the Big Desert area) only in South Western Australia.

Motasingha dirphia trimaculata Also found on or near sand dunes, usually with the above species. Females also rare. Food plant is Lepidosperma sp. Adults fly October and November.

PIERIDAE

Anapheis java teutonia This migrant is frequently seen throughout the year.

NYMPHALIDAE

Vanessa kershawi Often common, particularly in the moister areas.

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LYCAENIDAE

Ogyris idmo halmaturia Only recorded by Mr. K. Hateley in November. 1974

Hypochrysops ignita ignita A good colony exists near the salt lake, associated with Iridomyrmex ants and feeding on Brachyloma daphnoides. Although wide-spread the species is not common.

Nacaduba biocellata biocellata Odd specimens seen. Normally an Acacia feeder.

Lampides boeticus

Neolucia agricola agricola Not rare, mainly in heathy areas.

Neolucia serpentata serpentata Not uncommon at times.

Zizina otis labradorus Common at times, mainly in moister areas.

Candalides cyprotus cyprotus Common at times, generally October/November but females rare. Males fly on or near dunes, usually the tops, females in the heaths between. Food plant not known.

Candalides acastus Often common in September/October.

Feeds on Cassytha sp.

Candalides hyacinthinus simplex Sometimes common. Larvae feed on large species of Cassytha.

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CHANGE OF ADDRESS

The new address of Mr. D.E.A. Morton is 25 Bella Vista Rd.,
Glen Iris. V. 3146 Telephone 25-3550..

Would any members who have found their address incorrectly entered on the recently published list of members please advise the Treasurer immediately.

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THE EXPEDITION RANGE

Zoo and Mary Le Souëf are on their way to the Expedition range for further collecting, as also are Ray and Nola Manskie. They intend to rendezvous with Andrew Atkins 'somewhere on the Blackdown Tableland'. Ray and Nola will be travelling slowly, as they hope to get some extensive collecting in south-eastern Queensland, and near Eidsvold, before reaching the Expedition Range.

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Some Abnormal Insect Records for the Summers of 1972-3, 1973-4.

By W.N.B. Quick *

The summer period of the last two or three years have been remarkable, particularly that of 1973-4, for the southwards extension of subtropical or monsoonal influences. No less remarkable has been the response of a number of insect species in the utilisation of these abnormally-favourable conditions to multiply and extend their range.

While it is probably not quite correct to assume that the apparent total increase or extension of distribution is due to infiltration within one season, this is quite feasible in the case of species with migratory tendencies. Other species are doubtless normally present as stragglers, but at a level at which capture or sighting is unlikely. Such species would then be in a position to take immediate advantage of any exceptionally favourable conditions. The equally-abnormal low winter temperatures which have prevailed over most of the continent subsequent to these conditions will to a great extent equalise the situation, and it seems unlikely that any of these species will be able to retain their newly-occupied 'territory' under the influence of normal summer conditions.

In tabulating the information which has come to hand, it has been found necessary to arrange species into several categories, some species appearing in two or more categories. In these cases, and for some additional species, qualifying notes are entered at the end of each list.

The writer wishes to express thanks to each of the following, who have taken the trouble to fill in and return detailed questionnaires. (The number opposite each of the alphabetically-arranged names is repeated at each entry in individual acknowledgment.) :

1. Mr. Andrew Atkins, 1.15 Booker St., North Rockhampton. Q.
2. Mr Peter Carwardine, 2a Victoria Rd., Malvern. V.
3. Mr Bob Condon, 96 Shannon St., Box Hill Nth., V.
4. Mr D.F. Crosby, 7 Russell St., Toorak. V.
5. Mr R.V. Dennis, Warncoort. V.
6. Mr Peter Frank, 15 Canberra Gve., Beaumaris. V.
7. Mr Bill Franzke, 7 Tudor Crt., Glen Waverley. V.
8. Mrs Norma Harrison, P.O. Box 110, Stanhope. V.
9. Mr Keith Hateley, Kiata. V.
10. Mr Peter Holbery, 3 Coorie Cres., Rosanna. V.
11. Mr David Holmes, Holmden, Red Hill. V.
12. Mr A.J. Kinsella, 54 Kenwick St., Glen Iris. V.
13. Mr J.C. Le Souëf, P.O. Box 2, Blairgowrie. V.
14. Mr G. McConnell, 22 Reid St., Beaumaris. V.

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15. Miss Helen Malcolm, 11/1 Arthur St., South Yarra. V.
16. Mr Ray Manskie, 8 Smith Rd., Springvale North. V.
17. Mr D.E.A. Morton, 25 BellaVista Rd., Glen Iris. V.
18. (Writer's records)
19. Mr Gary Sankowsky, Long Rd., North Tamborine. Q.
20. Mr Michael Schwarz, Devonshire Lane, Mt. Macedon. V.
21. Mr George Turley, 99 Rodboro St., Rockhampton. Q.

Information has also been included from notes received from:
 Messrs. W.G.D. Middleton, (22), R.H. Fisher (23) and Allan
 J. Marsland (24). These notes appeared in earlier issues.

In the following schedules, the name of the species is listed in the first column, subtended by the family. The second column is the locality record, followed by the date. In the 'Record' column, the same abbreviations are used throughout, i.e.
 'C' - specimens captured, and number,
 'S' - sightings and number,
 'B' - recorded breeding, and stage recorded, e.g. L = larva(e).

The numbers listed in the extreme right-hand column refer to the list of persons supplying this information --- not necessarily the collector concerned.

SECTION A

(Probable New Records Within State of Origin)

<u>Berasus</u> (?) <u>nutans</u> (<u>Hydrophilidae</u>)	Dartmouth Dam. V.	x:73	C-1	15
<u>Catopsilia pomona pomona</u> (<u>Picridae</u>)	Blairgowrie. V.	ii:74	S-1	13
<u>Coptosoma</u> sp. (<u>Plataspidae</u>)	Dartmouth Dam. V.	xii:73	C-2	15
<u>Mimene atropatene</u> (<u>Hesperiidae</u>)	Iron Ra. Dist. Q.	iv/v:74	C-	1 et al.
<u>Vlasta extrusus</u> (<u>Hesperiidae</u>)	Iron Ra. Dist. Q.	iv,v:74	C-4	1 et al.
<u>Polyura pyrrhus sempronius</u> (<u>Nymphalidae</u>)	Adelaide. S.A.	xi:73	C-2	

SECTION B

Significant numbers outside normal areas of Distribution, but not necessarily unrecorded previously in these areas.

<u>Acraea andromacha</u> (Nymphalidae)	Glen Waverley. V.	iii,iv:74	C-8	18
	Melbourne City.	iii:74	S-1	10
	Rosanna. V.	iii:74	C-1,	
	Rosanna. V.	iii:74	S-many	10
	Viewbank. V.	iii:74	S-many	10
	Blairgowrie. V.	iii:74	S-1	13
<u>Badamia exclamationis</u> (Hesperiidae)	Caulfield. V.	iii:74	S-1	12
<u>Catopsilia pyranthe</u> (Pieridae)	Wangarabel. V.	xii:73	C-1	16
<u>Delias argenthona</u> (Picridae)	Murray River,			
<u>Euploea core corinna</u> (Danaidae)	nr. Mathoura, NSW.	iv:74	C-1	3
	Armadale. V.	iii:74	S-1	17
	Beaumaris. V.	i:74	S-1	6
	Beaumaris. V.	i:74	C-1	14
	Benalla. V.	iv:74	S-1	7
	Blairgowrie. V.	ii:74	C-1, S-2	13
	Boorhaman. V.	ii,iii,iv:74	C-6, B?	16
	Box Hill North. V.	iii:74	C-1	3
	Stanhope. V.	ii:74	C-1	8
	Tallangatta. V.	iv:74	S-1	7
	Tangamballanga. V.	ii:74	B-1L	8
	Viewbank. V.	ii,iii:74	S-many	10
<u>Graphium agamemnon ligatum</u> (Papilionidae)	Yeppoon. Q.	ii:74	S-1	18
	Yeppoon. Q.	iii:74	C-2	21
	Byfield. Q.	iii:74	C-1	21
<u>Hypolimnas alinena lamina</u> (Nymphalidae)	Bundaberg. Q.	ii:72	C-S-B	19
	Wallaville. Q.	viii:73	S-1	19
	Wallaville. Q.	i,ii:74	S,B	19
	Nambour. Q.	ii:74	C-1	19
<u>Hypolimnas bolina nerina</u> (Nymphalidae)	Kiata. V.	v:72	First S	9
	Lakes Entrance. V.	i:74	S-1	16
<u>Hypolimnas misippus</u> (Nymphalidae)	Wallaville. Q.	xii:73	C-1	19
	Wallaville. Q.	ii:74	C-S-B	19
	Brisbane. Q.	iv:74	B-(LL)	19
	15km E. Murwill'h	iii:74	S-1	19
<u>Mycalesis perseus perseus</u>	Byfield. Q.	iii:74	C-12	21
	Yeppoon. Q.	ii :74	C-2	18
<u>Mynes geoffroyi guerini</u> (Nymphalidae)	Gold Coast. Q.	v:73	S-B many	19
	Ballina. NSW.	ii:74	S-B "	19
<u>Papilio aegeus aegeus</u> (Papilionidae)	Richmond R.	ii:74	S-B "	19
	Dimboola. V.	xii:73	C-1	9
	Dimboola. V.	i,ii:74	C-1, S many	9
	Glen Waverley. V.	iii:74	S-1	18
	Mt. Macedon, V.	ii:74	S-1	20
	Red Hill. V.	i:74	C-1, B(3L)	11
	South Melb.	iii:74	S-1	4
	Stanhope. V.	i:74	C-1	8
	Toorak. V.	iv:74	S-1	4
	West Rosebud. V.	iii:74	S-1	13

Section B continued overleaf

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SECTION B (cont.)

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<u>Polyura pyrrhus sempronius</u> (Nymphalidae)	Beaumaris. V. Beaumaris. V. Benalla. V. Bogong. V. Bogong. V. Dimboola. V. Dimboola. V. Glen Waverley. V. Heidelberg. V. Melbourne City. Stanhope. V. Viewbank. V. Wail. V. Warncoort. V. Warrandyte. V. Yan Yean. V. Gympie. Q. Miami Beach. Q.	xii:73, i:74 i, ii:74 iv:74 i(?) :74 iii:74 i:74 ii, iii:74 iii:74 iii:74 iii:74 iii:74 iii:74 ii:74 iii:74 iii:74 iii:74 i:74 ii:74	S-4 S-2 S-1 C-3 B-2L C-1 S-many S-1 S-1 S-1 S-1 C-1, S-2 S-1 C-1 S-1 C-2, S-4 S-2 S-1	6 14 18 24 24 .9 9 18 10 10 8 10 22 5 10 12 19 19
<u>Precis hedonia zelima</u> (Nymphalidae)	Italowie Gorge. (S.A.)	ii:74	C-2	23
<u>Previously omitted:</u> <u>Hypolimnas bolina nerina</u>	Dimboola. V.	ii:74	S-1	22

SECTION C

Increase in Numbers Within Normal Distribution.

<u>Papilio anactus</u> (Papilionidae)	Beaumaris. V. Benalla. V. Box Hill North. V. Caulfield. V. Essendon. V. Fitzroy. V. Glen Waverley. V. Glen Waverley. V. Malvern. V. Mont Albert. V. Mt. Macedon. V. Murrumbeena. V. Murrumbeena. V. Toorak. V. Viewbank. V. Warncoort. V. East Doncaster. V. Glen Waverley. V. Red Hill. V.	xii:73) i, ii:74) iv:74 iii:74 ii:74 i:74 v:74 iii:74 i, ii, iii, iv:74 iii:74 iii:73 iii:74 xii:73 ii, iii, iv:74 iii, iv:74 iii:74 iii, iv:74 iv:74 iv:74 ii, iii:74	C.S.B. (many) C-3 B-15L S-2 S-2 B-4L C-1 CSB many S-17, B-1L B-1L S-B, many S-1 S-5 S-30± C, S many S-6± S-many C-2 C-few	6 7 3 2 7 18 7 18 2 3 20 7 7 4 10 5 3 3 11
<u>Austracris guttulosa</u> (Acrididae)	Beaumaris. V. Box Hill North. V. Glen Waverley. V. Red Hill. V.	i, ii:74 iii:74 iv:74 ii, iii:74	C, S sev. C-1 C-2 C-few	6 3 3 11
<u>Cyneoterpna wilsoni</u> (Boarmidae)	Bunyip. V.	ii:74	C-1, S-2	12
<u>Danaus chrysippus petilia</u> (Danaidae)				

Continued overleaf

<u>Danaus chrysippus petilia</u>	Caulfield. V. Dandenong Ra. V. Glen Waverley. V. Glen Waverley. V. Glen Waverley. V. Kiata. V. Mt. Macedon. V. Sandringham. V. Somers. V. Caulfield. V.	ii, iii:74 xii:73 iii:74 iii:74 iii:74 xi:73 xii:73 iii:74 iii:74 iii:74	S-12± C-1 S-3 S-1 C-1 C, S many C-1 S-1 S-1 S-3	12 12 18 7 18 3 20 7 7 12
<u>Delias aganippe</u> (Pieridae)				
<u>Delias harpalyce</u> (Pieridae)	Caulfield. V.	iii:74	C-1, S-2	12
<u>Niceteria macrocosma</u> (Boarmidae)	Red Hill. V.	ii, iii:74	C-few	11
<u>Papilio demoleus sthenelus</u> (Papilionidae)	Albert Park. V. Beaumaris. V. Caulfield. V. Glen Iris. V. Glen Waverley. V. Glen Waverley. V. Rosanna. V. Viewbank. V. Warncoort. V. Red Hill. V.	i:74 iii:74 iii:74 iii:74 xii:73 i, iii:74 iii:74 iii:74 iii:74 ii, iii:74	S-1 S-1 C-1, S-3 S-2 C-1 S-3 C-1 C-1, S-1 S-6± C-few	7 6 12 12 7 18 10 10 5 11
<u>Paraterpna harrisoni</u> (Boarmidae)				
<u>Precis villida calybe</u> (Nymphalidae)	Red Hill. V.	xii:73, i:74B, many		11
<u>Utethesia pulchelloides</u> (Arctiidae)	Malvern. V.	ii, iii:74	S-many	2

In regard to the insects in section C, the numbers of Papilio anactus present were at times truly remarkable. On occasions at Glen Waverley, five or six would be in sight at one time, in this respect outnumbering both Heteronympha merope and Pieris rapae. There is little doubt that many specimens of Acraea andromacha were passed over as worn examples of Papilio anactus. The numbers of Danaus chrysippus petilia did not constitute a major population flux as has occurred in years past, and the records of the two Delias can only be regarded as unusual in the extent to which these had penetrated the urban area. Danaus plexippus was present only in 'normal' numbers, and Eurema smilax has been omitted from the list. The early build-up of this species was the subject of a note in the Victorian Entomologist 3:5 and 4:1.

In Section A, Vlasta extrusus and Mimene atropatene are recent additions to the known Australian mainland butterfly fauna, and the status of the former is presently being examined. The Berasus and Coptosoma records were the subject of notes in Vol 4:3. A recorded sighting of Eurema hecate phoebus near Melbourne had unfortunately to be discounted. Separation of this species from Eurema smilax in the field, when the latter is known to be present, would not be reliable.

October, 1974.

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The Victorian Entomologist

In section B, a number of insects, notably Acraea andromacha, Badamia exclamationis, Delias argenthona, Euploea core corinna, Hypolimnas bolina nerina and Polyura pyrrhus sempronius have been recorded hundreds of kilometers away from their 'normal' habitat, and if not constituting new records for the state in which they were taken, most are certainly new records for the localities listed. Only once, in 1961, did the writer see Acraea andromacha in Glen Waverley prior to this last season. Catopsilia pyranthe, on the other hand did not approach the immense invasion which reached Melbourne in 1955, when the butterflies could be picked off bushes where they were resting for the night. There was no record made of the appearance of Elodina padusa. One specimen of this species was taken in East Malvern, V. in January 1944, with an further sighting at Croydon, V., the following week. There appears to have been no record of any re-appearance since that date.

^t20 Alimar Rd., Glen Waverley, V. 3150.

THE ENTOMOLOGICAL SOCIETY OF VICTORIACONSTITUTION

1. NAME The name of the Society shall be "The Entomological Society of Victoria".
2. OBJECT (a) To stimulate the scientific study and discussion of entomology in all its aspects.
(b) To gather, preserve and disseminate knowledge of all Australian species of insects.
(c) To compile and maintain a list of all known species of Victorian insects.
(d) To bring together in a social and scientific atmosphere all persons interested in entomology.
3. MEMBERSHIP Shall consist of:
 - (a) Ordinary Members
 - (b) Student Members
 - (c) Associate Members
 - (d) Life Members
 - (e) Honorary Life Members
 - (f) Exchange Members

(a) ORDINARY MEMBERS are persons over the age of 18 years paying an annual subscription to the Society.
(b) STUDENT MEMBERS are persons under the age of 18 years, and who are bona fide full-time students of a college or university, paying an annual subscription to the Society.
(c) ASSOCIATE MEMBERSHIP is restricted to the immediate family of any person annually paying an Ordinary Membership subscription to the Society, and who are resident at the same address as that person. Such Associate Members shall not be entitled to receive the Society's publications, but in all other respects shall rank equally with Ordinary Members.
(d) LIFE MEMBERS shall be Ordinary Members who shall have paid a fee equivalent to twenty years annual subscriptions at the rate current at the time of application.
(e) HONORARY LIFE MEMBERS are those persons, duly elected by the Society, who have rendered or are rendering distinguished service to the Society, or to the cause of Entomology. These persons are to be entitled the same privileges as Ordinary Members, without subscribing an annual fee to the Society.
Honorary Life Members shall be approved by the Council and elected by a two-thirds majority at an Annual or Ordinary meeting. The number of Honorary Life Members at any one time shall not exceed ten per centum of the total membership of the Society.
(f) EXCHANGE MEMBERS shall be only those Clubs or Affiliated Societies interested in Entomology, and who send their own Magazine or Journal to the Society in exchange for the "Victorian Entomologist".

4. NOMINATION & ELECTION

Applicants for membership shall be nominated and seconded by two financial members at any Annual or Ordinary General Meeting, and shall be elected at the succeeding meeting. Election shall be by vote taken on a show of hands, or by ballot if such is demanded by not less than three financial members of the Society. The nominee shall be declared elected if a majority in favour is obtained.

5. SUBSCRIPTIONS

All annual subscriptions shall be fixed by the Council of the Society with the approval of a General Meeting. (Vol.3:4) All Exchange, Honorary, and financial Members, other than Associate Members, shall receive the Society's publication, "The Victorian Entomologist". All subscriptions become due on January 1st. of each year, and shall be payable in advance at or before the February General Meeting. The financial year shall terminate on the 31st. day of December each year.

6. TERMINATION OF MEMBERSHIP

Membership of the Society shall be deemed to have terminated if any member tenders a written resignation to the Secretary, or if any member is not financial after ninety (90) days from the date of the February meeting. Re-nomination and re-election will be required of persons who resign and wish to re-join the Society. Persons who are unfinancial for no more than two (2) consecutive years may renew their membership by payment of all subscriptions which are in arrears.

7. THE COUNCIL

- (a) The management of the Society shall be vested in the Council.
- (b) The Council shall consist of the President, two Vice Presidents, (Vol.4:5), Immediate Past-President, Honorary Secretary, Honorary Treasurer, Editor, and up to eight (8) other Councillors. (Vol.3:4)
- (c) The Council shall meet bi-monthly, or as often as may be practicable and desirable.
- (d) The Council shall have the power to make By-Laws with respect to the publication of the "Victorian Entomologist", or any other matters consistent with the Objects of the Society.

8. ELECTION OF THE COUNCIL

- (a) The Council members shall be elected at the Annual General (June) Meeting of the Society.
- (b) Nominations, in writing, and signed by the proposer, seconder, and nominee must be in the hands of the (retiring) Secretary seven (7) days prior to the Annual General Meeting.
- (c) If there are insufficient written nominations, then nominations may be accepted at the Annual General Meeting.
- (d) If there are vacancies on the Council at the close of the Annual General Meeting, or for any other reason during the Society's year, then these vacancies may be filled by invitation.
- (e) Office-bearers may be dismissed from office by a seventy-five per centum (75%) majority vote, at a meeting called specially for the purpose, and for which seven (7) days' notice has been given.

9. OFFICE BEARERS

The PRESIDENT shall chair all General and Council Meetings.

A VICE-PRESIDENT shall deputise in the absence of the President.

The SECRETARY shall:

- (a) Keep records of the names and addresses of all members of the Society.
- (b) Make the necessary arrangements for meetings, and give due notice of all meetings.
- (c) Keep minutes of the proceedings of Council and General meetings.
- (d) Transmit to the Editor any material for publication in the "Victorian Entomologist".
- (e) Notify members concerning their subscriptions.
- (f) Generally transact the routine business of the Society.

The TREASURER shall:

- (a) collect and receive all monies on behalf of the Society and deposit these without any deduction whatsoever in a bank approved by the Council.
- (b) Maintain records of all financial transactions.
- (c) Keep a record of members indicating their current financial status.
- (d) Present a cash statement at each General and Council Meeting.
- (e) Make payments of all accounts approved for payment, such payment being made by cheque signed by either the Treasurer or the President.

The EDITOR shall:

- (a) Prepare and publish the "Victorian Entomologist" every second month of the year, prior to the General Meetings.
- (b) Ensure that the cost of publication is kept within any limitations set by the Council.
- (c) Supply to the Treasurer prior to each Council Meeting a statement of expenditure, together with the relevant receipts.
- (d) Arrange for the distribution of the "Victorian Entomologist" to all members entitled to receive it.
- (e) Co-opt a Publications Committee to the approval of the Society's Council. (Vol.3:4)
- (f) Together with the Publications Committee, accept responsibility for content, format and costing of the Journal, with the obligation to refer controversial matters to the General Meetings. (Vol.3:4)

10. MEETINGS

An Ordinary General Meeting shall be held on the second last Friday of each second month, and/or at such other times as shall be deemed advisable by the Council. The Annual General Meeting shall be held in June of each year (Vol.4:3). A minimum of seven (7) days notice of meetings is to be given to members by the Secretary.

11. QUORUM

At Ordinary and Annual Meetings 15 members, and at Council Meetings five members shall form a quorum for the transacting of any business.

12. ALTERATION OF THE CONSTITUTION

The foregoing shall not be altered, suspended or added to except at an Annual General Meeting or at an Extra-ordinary meeting called for such purpose by the Council, and then only when written notice of the amendment has been published in one issue of the Journal or supplement thereto, posted not less than one week prior to the meeting at which the proposed amendment is to be voted upon. (Vol.4:5.)

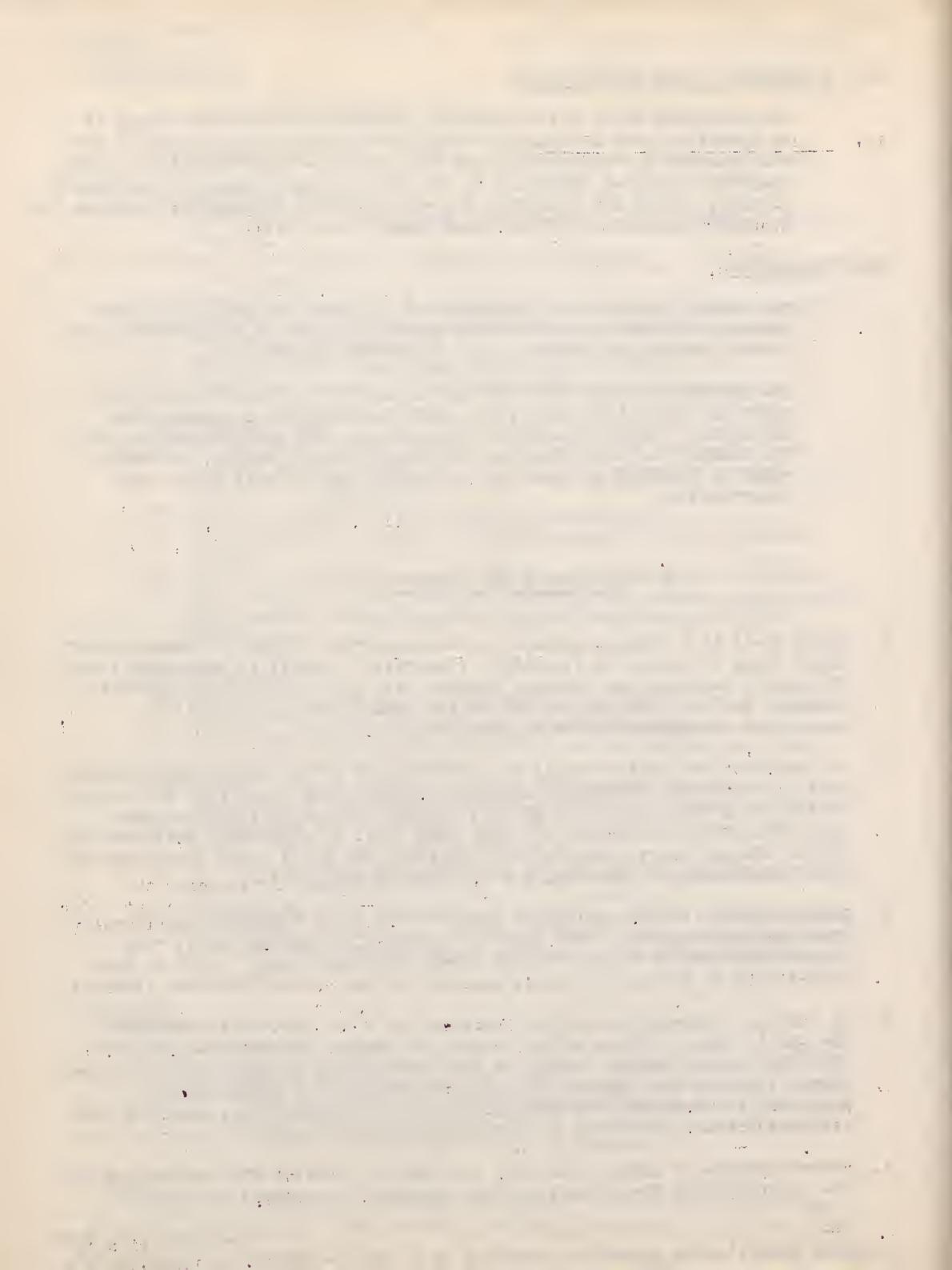
13. DISSOLUTION

The Society shall not be dissolved or its name changed without the consent of three quarters of the members present at an Extra-ordinary General Meeting of members, called for that purpose.

The proceeds arising from the winding up of the Society, after all costs and debts have been paid, shall be distributed amongst such charitable and/or scientific institutions, and in such amounts, as the Council in their absolute discretion, shall decide. No member shall be entitled to share in, or receive any benefit from, such distribution.

BY-LAWS OF THE SOCIETY

1. There shall be a Society publication entitled "The Victorian Entomologist", which shall be issued at bi-monthly intervals. It shall be forwarded to all financial, honorary and exchange members with the exception of Associate members. Not more than 25% of all copies issued each month shall be despatched to non-members of the Society.
2. An amount of two dollars shall be set aside out of the Annual Subscriptions paid by Ordinary, and Student members, together with forty (40) dollars out of the fee paid by each Life Member, for the purpose of financing the publication of the Journal, and such sums shall be separately accounted for in the balance sheet, which must be audited, and shall cover the financial year terminating on the 31st. day of December each year.
2. Subscriptions are due on January 1st. of each year. Subscriptions received from new members, other than associate members, during any year, will entitle that member to receive all issues and back-issues , or as many back-issues as may be available, relative to the year of joining. (Vol.3:4)
3. An overdue subscription will be indicated by a red spot on the cover of the April issue. Posting of the Journal to overdue subscribers will cease with this issue, unless renewal of the subscription is made within fourteen days. Journals not received for this reason must, if subsequently required, be purchased separately, and are not automatically supplied when re-joining under Section 6 of the Constitution. (Vol.3:4.)
4. Advertisements of insects for sale will not be received for publication in the Journal other than from bona fide commercial breeders. (Vol.3:4.)



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Journal of
The ENTOMOLOGICAL
SOCIETY of VICTORIA

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The ENTOMOLOGICAL SOCIETY of VICTORIA

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's bi-monthly journal, the "Victorian Entomologist". Excursions are arranged to areas of topical interest at intervals, mainly during the warmer months. Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings for 1971 will be held at Clunies Ross House, National Science Centre, 191 Royal Pde., Parkville, at 8 p.m. sharp, on the second last Friday of even months, commencing with the Annual General Meeting in February. Visitors are always welcome.

<u>Annual Subscriptions:</u>	\$	Notwithstanding the rates shown herein, rising costs and rates of postage, &c. may at some stage necessitate an increase in annual subscriptions
Ordinary Member	3.00	
Country Member	2.00	
Associate Member	1.00	
Junior or Student	1.50	

(Associate members do not receive the journal.)

The statements and opinions expressed in articles herein are the responsibility of the respective authors, and do not necessarily indicate the policy of the Society.



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-ooOoo-

The reproduction of taxonomic papers within this Journal shall not constitute formal publication.

-ooOoo-

The Council and Publications Committee wish to extend to all members, and colleagues in affiliated or kindred Societies, the COMPLIMENTS of the SEASON

ENTOMOLOGICAL SOCIETY of VICTORIA

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Immediate Past-President, Mr C. McCubbin.

Councillors: Messrs. F. Hallgarten, O.H. Rogge, R.C. Manskie,
Mr & Mrs. G. Burns.

Diary of Coming Events

December 13th., 1974: GENERAL MEETING and MEMBERS' NIGHT.

Ladies are requested to bring a plate. Coffee will be provided. As this is an informal evening, it is suggested that special effort be put into the provision of a small but significant exhibit by each member.

February 21, 1975. General Meeting, Clunies-Ross House. 8 p.m.

April 18, 1975. General Meeting, Clunies-Ross House. 8 p.m.

June 20, 1975. General Meeting, Clunies-Ross House. 8 p.m.

Reports & Notices

Minutes of the General Meeting, Friday October 18, 1974,
held at Clunies-Ross House:

Mr D.F. Crosby chaired the meeting which was attended by 30 members and friends. A sincere welcome was extended to visitors and those attending for the first time. Apologies were received from Messrs. J.C. Le Souëf, S. McEvey and N. Quick. Minutes of the previous meeting were read and passed, having been published in the Journal.

Correspondence was received from:

The Bord Observers Club

The Sciences Club

The Ent. Soc. of Aust. (N.S.W.) (Circulars, Sept., Oct.)

The Entomological Society of Queensland.

Elsevier Sequoia S.A. (Lausanne, Switzerland.)

Port Phillip Conservation Council.

The Treasurer reported a credit balance of \$228.50 with financial membership at 94.

A call by the President for nominations for the vacant position of Editor was unproductive.

Attention was drawn to an unfortunate error regarding a report on the protection of certain Queensland butterfly species, and to the letter received from the Entomological Society of Qld. concerning this report. (See note elsewhere -- Ed.) The President has undertaken to obtain further detailed information on this matter, and a resume will be published at a later date.

A request was made for some suggested topics for future talks. One night is to be reserved as a film night.

The December Meeting will of course be a Members' Night, and the womenfolk are requested to bring a plate. Coffee will be provided. Special exhibits by members are invited.

The excursion to Launching Place has been transferred from Saturday November 30 to Sunday, December 1. (Members have been Circularised -- Ed.)

The Meeting was then addressed briefly by Messrs. D.F. Crosby, R. Besserdin and F. Hallgarten, each in turn dealing with various aspects of entomological techniques, after which members were invited to raise any queries.

Exhibits were provided by M. Schwarz (Bee Colonies), George Burns (Jewel Beetles of the Kiata area.), Ray Manskie (A miscellany of moths, many of which were reared), Ray Besserdin (Hymenoptera -- Carpenter Bees from N. Qld.) and Bob Condron (Insect and host plant -- Common brown pupae, and Cup Moth (*Doratifera* sp.) larvae.).

December, 1974.

The Victorian Entomologist

Minutes of the Council Meeting held at Clunies-Ross House, November 13, 1974. Present: D.F.Crosby, J.Hallgarten, F. Hallgarten, N. Quick, Mr & Mrs. G. Burns. Apologies were received from C. McCubbin, R.Condron, R.Manskie, D. Holmes, J.Hutchinson and O. Rogge.

Mr Quick reported briefly on the Data Bank Symposium held in Sydney on October 8, 9, and 10, and detailed some of the motions which were passed in relation to grid-mapping. A suggested approach to the problem of recording could follow acceptance of a standardised grid system or dual system.

Members will be circularised regarding the proposed excursion to Launching Place. Circulars to be sent to metropolitan and nearer country members only.

Mr Neboiss has indicated that he will be unable to provide an address to the Society in December or February, as he would be overseas.

The Queensland Government action in proclaiming protection for (*inter alia*) two abundant butterfly species was again discussed. (See below -- Ed.)

-ooOoo-

To the Entomological Society of Queensland,
Our Apologies.

In the 'Victorian Entomologist' of October this year, we published minutes recording 'the move by the Queensland Entomological Society to restrict collecting of Papilio ulysses joesa and Ornithoptera priamus.', together with a brief comment.

This was quite incorrect. The move, by the Queensland State Government, was vigorously opposed on a number of grounds by the Entomological Society of Queensland. The Fauna Subcommittee of that Society had already made a submission to the Government on this matter, and although unsuccessful, this submission (a copy of which is available for examination and comment) amply illustrates that the Entomological Society of Queensland Fauna Subcommittee is wholly in accord with our own thoughts on the matter.

The protection of two very abundant species, whereby it is illegal to collect or even breed specimens, while the protection or preservation of natural breeding environments is totally ignored, is adequate indication the the Queensland Government sees such insects only as a potential source of revenue. This assumption is substantiated by the 'fee of atonement' whereby it is apparently possible to be granted a permit for such nefarious activities. The picture is completed by the recent release of National Park areas for commercial development. Our sincere apologies to our Queensland associates.

Further Notes on the
Butterflies of Expedition Range, Central Queensland.

By Andrew Atkins †

Additional species of butterfly have been recorded from Expedition Range since publication of the first list of butterfly fauna from this area (Vic. Ent., 1974 4: 1).

The trapezitine skipper Toxidia doubledayi (Feld.) was collected on the Blackdown Tableland in October and November 1974. This species is locally restricted to montane forest and bottle-tree brigalow scrubs in central Queensland, and undoubtedly other populations exist throughout the moist areas on this mountain.

Danis hymetus taygetus (C. & R. Feld.) was also observed on several occasions, both on the foothills and plateaux at Expedition Range, during April, August and September, 1974. Mr E. Adams also reported this species at Edungalba this year. The occurrence of D. hymetus in areas over 200 km from the coast was probably largely due to the extreme wet season experienced in central Queensland during 1973-74.

The following species were also observed or collected in April 1974 on the Blackdown Tableland:

- Trapezites symmomus Hubner
- Hesperilla furva Sands & Kerr
- Ocybadistes walkeri sothis Waterhouse
- Cephrenes trichopepla (Lower)
- Cephrenes augiades sperthias (Feld.)
- Catopsilia pyranthe crokera (W.S. Macleay)
- Hypocysta irius (Fabr.)
- Hypocysta pseudirius Butler
- Ypthima arctoa arctoa (Fabr.)
- Precis orithya albicincta (Butler)
- Deudorix epijarbas diovis Hewitson

Additionally, several Ogyris barnardi barnardi Miskin were seen flying around Acacia harpophylla trees at the western foothills of the Expedition Range in June 1974, and adult Hypochrysops delicia duaringae (Waterhouse) were reared from larvae collected from Alphitonia excelsa trees growing near the northern edge of Expedition Range. The larvae were collected in February 1974, and emerged as adults the following month. In September 1974 a female Pseudodipsas myrmecophila W. & L. was collected at Blackdown Tableland.

An Additional Record from Expedition Range.

In forwarding the preceding notes, the Author suggested that Messrs. Le Souëf and Manskie, who were collecting in the area in September this year, may have encountered some additional species.

The Editor has been in touch with those members, but no additional species were actually collected. R.C. Manskie did however observe a single specimen of Phaedyma shepherdii on the Blackdown Tableland on September 24.

-ooOoo-

Setting Lepidoptera, Odonata, &c.

While in Rockhampton last year, the writer called on Andrew Atkins, with whom Mr Ian Morhaus and Dr Grant Miller were staying at the time. Always interested in the setting techniques of others, perhaps in the secret hope that one day a satisfactory method of handling male Hesperiids will be found, I noticed that both collectors were using as cover-strips a material I had not tried.

In the humid conditions of the tropics, paper, no matter what type, had always proved a little short of satisfactory, expanding and slackening almost as soon as the setting was completed unless a drying cabinet was available. The material being used was a glass-clear plastic film (probably polyvinyl acetate) available at the best-known chain stores as a covering for school and other books.

With some trepidation, recalling how polythene is somewhat prone to remove scales, this material was tried, and found to be extremely satisfactory, without any tendency to mark specimens. It is strong, tear-resistant (unlike cellophane), and ideally elastic. Indeed, its only disadvantage lies in its perfect transparency. If a tinted form is available, this would be the ultimate material, especially during the cooler months, and in tropical areas.

Recently there has been some renewed interest in the old method of relaxing specimens in a container partly filled with leaves of camphor laurel which have been bruised. There can be no doubt of the efficiency of the method. Presuming that the foliage lacked any magical properties, it seemed reasonable that the slightly volatile camphor content was accomplishing a reduction in the repellent property of the insects' exoskeleton. Using a wet-sand relaxing box, the writer tried old-fashioned thymol, both with and without the addition of chlorcresol, with excellent results. Thymol and camphor, both 'crystalline' essential oils, have a somewhat similar volatility.

December, 1974.

The Victorian Entomologist

A Week Collecting in Java.

By D.E.A. Morton †

In January of this year I had the great good fortune to spend a week in Djakarta. Quite close to where we were staying was a nursery growing plants for Government use, and which was also something of a garden, with beautifully cobbled paths, flower-beds, hedges of Lantana, and several stands of mature trees which included some immense figs. A particularly unsalubrious creek flowed along the centre of this place, which was strongly fenced for a distance of some four kilometers, with a width of half a kilometer.

The weather was hot, humid and cloudy, the monsoon season having not quite finished. Occasionally the sun would break through and the ground would steam. This garden was a goldmine for butterflies, the vegetation and conditions changing every few steps along the paths, so new species were constantly appearing. Each visit to the area also produced new species. Shade-loving Amathusids had to be shaken out of the bushes where they roosted during the day. Fruit-bearing trees were searched for drunken Polyura.

The Lantanas produced Graphium, Delias and Phalanta species galore, while a flowering tree near some deep shade was swarming with two sorts of Euploea. Deep among the palms flitted a beautiful black and purple Elymnias, the female of which mimics a Danaid. Occasionally, something with the appearance of a large bat, or perhaps a black velvet duster, lolloped through the undergrowth a couple of metres from the ground. Once pursued, it ignited after-burners and made off at tremendous speed like a jet-propelled Papilio aegeus. Few of these Papilios were caught, and then only as they were absent-mindedly fanning themselves at Lantana. I am sure I failed to see just as many species as I actually caught, particularly amongst the Hesperiids and Lycaenids, for standing still and observing for long periods was discouraged by minute red ants, which quickly discovered and punished bare and tender feet.

During the weekend we drove to Tugu, a village in the hills some 100 km from Djakarta, and stayed at a company house among the tea gardens and paddy fields. At an elevation of 1000m, Tugu's climate was much cooler and much wetter than Djakarta's, and one's life was spent to the constant tune of water irrigating the ricefields. The terrace to the house was full, for an hour or so morning and evening, of itinerant vendors of almost anything from carpets to corn-on-the-cob, and incidentally insects - mainly butterflies, but with some moths and an occasional Phasmid among them - in glass-topped cardboard display boxes. Unfortunately, these were invariably mouldy. Price ? 50c for about 30 specimens !

Probably because of the intense cultivation and the prevailing weather conditions, collecting at Tugu yielded a smaller variety of insects than did Djakarta. These montane species were quite different, however, and a trip to a large park nearby, (once the Dutch Governor-General's summer residence), involved a walk through magnificent rain-forest which would have been much more productive had the day been fine. This park had in it a stand of superb eucalypts and Australian pines which had been planted in the early years of this century.

There follows a list of species actually taken, and tentatively identified at least to generic level, with the help of Brigadier H.L. Lewis' "Butterflies of the World". A number of species are represented amongst our North Queensland butterflies, as is only to be expected, but many were quite unknown to me. Butterflies could be seen everywhere, even in the centre of Djakarta, and this is explained, I think, partly at any rate, by the respect of the inhabitants for all growing things, their unwillingness to clear vegetation except when absolutely necessary, and, by no means least, the scarcity of the really destructive types of machinery, the work being done by a seemingly endless supply of manpower.

Collected in the Government Nurseries, Djakarta:

HESPERIIDAE

- Pelopidas sp.
- Parnara guttatus
- Telicota spp.
- Suniana spp.

PAPILIONIDAE

- Graphium agamemnon
- Graphium evemon
- Graphium sarpedon
- Papilio memnon
- Papilio polytes

PIERIDAE

- Catopsilia pomona
- Catopsilia pyranthe
- Catopsilia scylla
- Delias periboea
- Delias hyparete
- Eurema hecabe
- Eurema sp.

AMATHUSIIDAE

- Amathusia perakana

SATYRIDAE

- Elymnias hypermnestra
- Elymnias nesaea
- Melanitis leda

NYMPHALIDAE

- Ariadne isaeus
- Doleschallia bisaltide
- Euthalia spp.
- Phalanta phalantha
- Polyura moori
- Polyura schrciberi
- Precis atlites
- Hypolimnas misippus
- Hypolimnas bolina

DANAIDAE

- Danaus genutia
- Danaus juventa
- Euploea mulciber
- Euploea harrisi

LYCAENIDAE

- Narathura sp.
- Nacaduba sp.
- Euchrysops cnejus
- Zizula sp.

December, 1974.

The Victorian Entomologist

Collected at Tugu, Java, at 1000m.HESPERIIDAETolicota sp.Suniana sp.PIERIDAEDelias belisamaAMATHUSIDAEFaunis arcесilausSITYRIDAELethe confusaMycalesis horsfeldiYpthima baldusNYMPHALIDAENeptis columellaLYCAENIDAEHelio�horus sp.Celestrina akasa

‡ 25 Bella Vista Rd., Glen Iris. V.

-ooOoo-

Book Review

MOTHS OF AUSTRALIA -- Bernard D'Abrera F.R.E.S.

Few authors have attempted a broad-spectrum work on the legion moths of Australia. Certainly, anything approaching a comprehensive coverage would be totally unmanageable, and price would alone defeat all but the larger institutional and State libraries. Yet, in recent years the demand for something in the way of a guide has been sufficient to inspire two such writers.

The first to appear was in the form of a pocket-book, which has served many as a means of identification of moths representative of each Family. Produced to a budgetable price, illustrations were predominantly black-and-white, and of more or less uniform size. An excellent little publication, but not perhaps in a category which could be expected to inspire the more apathetic with a new-found interest.

The new publication, 19cm x 25cm in hard covers, contains within its 80-odd pages some 13 black-and-white plates and 47 full-size plates in true colour on heavy art paper, covering representative species from 38 families. Amongst the many moths illustrated one finds the selection of species is sensibly based on a blend of the familiar and the bizarre, providing a useful impression of both variation and constant characteristics within a single family.

Text accompanying the illustrations is at a minimum, and largely confined to comment relative to some characteristic or unique feature of the insect illustrated, or the family.

One cannot help but feel that some of the Author's unique sense of humour may be lost on those not personally acquainted with him, and his expressed opinions, and descriptions of an entomologist's whicewithall should be digested with several grams of salt !

In addition to the illustrations, the book contains sections on the characteristics and behaviour of moths, classification, and forming a collection. It is fully indexed. In brief, a work which is not only attractively produced, but which has really excellent illustrations, and cannot help but inspire a new awareness within its many potential readers.

Moths of Australia -- Bernard D'Abroca. Published 1974 by Lansdowne Press, Melbourne. Price approximately \$12.00. The copy for review supplied by the Author.

-ooOoo-

The Future and the "Victorian Entomologist"

This issue of the "Victorian Entomologist" may represent the last in its present format.

Over the last twelve months or so, numerous requests have been made for help in production, and more especially, over the last six months, appeals for nominations or volunteers to take over the vacant Editorial position. In regard to the latter, there has been no indication whatsoever of any likely improvement in the foreseeable future.

By the time this issue is received, the Publications Committee may have reached some decision on recommendations for the future, and it seems likely that the Entomological Society of Victoria may have to follow a pattern set by several kindred societies and reduce production to a bi-monthly newsletter, supplemented by an Annual Journal.

Our publication, unlike the publications of some Societies, is not sponsored or subsidised by any business houses or large Corporations. It is financed wholly by a proportion of annual subscriptions, and has had therefore to be kept in the format of a humble yet presentable publication. In its present form, it represents many, many hours of planning by a number of members, both past and present. By many trials, and certainly some errors from which the present acting Editor can not exclude himself, it has evolved into a form, or compromise, which aims to satisfy

or even please all members.

There have been times when the Editor wondered if, in fact, any one really read the Journal. To be sure, there have also been occasions when little could be found between the covers. So it is at some stage with most periodicals. But to those of our members who have devoted so much time and effort, and have sacrificed weekends in the field time and time again in order to produce and improve the Journal, it is a bitter blow to discover that there is, amongst our numbers, insufficient enthusiasm to share the modest burden of continued production.

If, indeed, there is some member who is willing, even at this late stage, to fill the void, who has some command of the English language, a spare cupboard, and preferably independent transport, it is not too late to advise some member of the Council.

-ooOoo-

Missing Periodical

It would be appreciated if the person currently holding the News Bulletin of the Entomological Society of Queensland, Vol. 2, Nos. 4 & 5, would advise, or forward them to, W.N.B. Quick, 20 Alimar Rd., Glen Waverley.

-ooOoo-

Protected Butterfly Species

In order to make quite certain that our members are made fully aware of the situation, it is repeated that recent legislation by the Queensland Government makes it now illegal to collect or breed

Papilio ulysses joesa (Mountain Blue)

Ornithoptera priamus (Cairns Birdwing)
and, presumably, its other races.

One is tempted to enquire the action which should be taken when larvae are found browsing on Aristolochia growing naturally on one's property, and an explanation to the local wildlife service officer becomes necessary. Or is the Government liable for damage to property occasioned by its beastly beasties ?



Vol. 5: No. 1, February 1975.



THE
VICTORIAN ENTOMOLOGIST



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Student Members under 18	2.00 "	3.25 "
Associate Member	1.00 "	++++++

No separate Joining Fee is payable. Associate Members, resident at the same address as, and being immediate relatives of an Ordinary Member, do not receive a separate copy of the Society's publications, but in all other respects rank as Ordinary Members.

Notwithstanding the rates shown herein, rising costs may at some stage necessitate an increase in Subscriptions without separate notice other than notification at Meetings.

The statements and opinions herein are the responsibility of the respective authors, and do not necessarily reflect the policy of the Society.

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'Phone 86-8976 (B.H.)

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'Phone 231-2233 (B.H.)

Immediate Past President: Mr C. McCubbin.

Councillors: Messrs F. Hallgarten, O.H. Rogge, R.C. Manskie,
Mr & Mrs G. Burns.

Diary of Coming Events

February 21, 1975: General Meeting, Clunies-Ross House. 8 p.m.

Speaker: Dr T. New. Topic: Lacewings as Biological Control Agents.

April 18, 1975: General Meeting, Clunies-Ross House. 8 p.m.

June 20, 1975: General Meeting, Clunies-Ross House. 8 p.m.

Reports and Notices

GENERAL MEETING: Friday December 13 1974 at Clunies-Ross House.

Mr N. Quick chaired the meeting, as the President, Mr D. Crosby, was on holiday. Twenty-seven members and friends attended. Apologies were received from Mr and Mrs J.C. Le Souef, and Messrs D. Crosby, P. Kelly, R. Condron, R. Besserdin, O. Rogge, P. Holbery, and P. Tippelt.

The minutes of the previous General Meeting were read by the Secretary and accepted (proposed by P. Carwadine, seconded by F. Hallgarten).

Business arising from minutes:

Nominations for Editor were called for. No reply was received until very late in the meeting, when Mr J. Caffin said he would be able to take over the editorship from February 1975; he was nominated by F. Hallgarten and seconded by J. Hutchinson.

Mr Hutchinson asked for suggestions for speakers for 1975 meetings. Dr T. New was suggested and has agreed to speak at the February meeting. His topic will be "Lacewings as Biological Control Agents".

Correspondence was received from:

1. Australian Entomological Society: News Bulletin, Journal.
2. Entomological Society of Australia (N.S.W.): Circulars November 1974 and December 1974.
3. Victorian National Parks Association.
4. Ecos 2, September 1974.

Treasurer's Report

The Treasurer reported a balance of \$160.97, with 97 financial members.

General Business

Nomination for Australian Entomological Society representative: C. McCubbin was nominated by N. Quick, seconded by F. Hallgarten.

R. Fisher requested permission to reproduce part of an article, by N. Quick, who granted this as author of the article and Acting Editor.

Excursion to Launching Place: it was reported that a large number of members and families were present, but although the surroundings were enjoyed very few insects were caught.

Mr N. Quick announced that the Society had obtained a limited permit for use of ethyl alcohol, which enabled it to buy small amounts.

Exhibits

A. Kinsella: Two boxes of butterflies from Victoria and Queensland. Of special interest was an unusually bright specimen of Tisiphone abeona (Swordgrass Brown) from Moondarra, Vic.

R. Condron: Swallowtails (family Papilionidae) from Australia and other parts of the world.

F. Hallgarten: Desert Jewel Beetles (family Buprestidae) from Western Australia and Kiata, Vic., collected in January and February.

Slides were shown by N. Quick, G. Burns and R. Manskie. The meeting was declared closed, after which coffee, cakes, and sandwiches were provided.

SECRETARY'S REPORT

This is my first report as Secretary of the Entomological Society of Victoria, and marks the end of the first six months. In it I will look at these six months and try to look forward to some of the aims that the Secretary and the Committee hope will be achieved.

After the elections one of the first problems to be considered was that of the junior members of the Society. It was felt that not enough was being done in the area of education of the junior members. The first method to be tried was at the October meeting, when a panel of three speakers spoke on basic entomology. This is the kind of activity that should be carried out and be encouraged in the future. If our Society encourages juniors to become members, then we should undertake activities to encourage them to stay.

Intermingled with the educational side of the Society there should be some talks aimed at the specialist areas of the Society. One of the events last year was the talk by Dr Churchill on grid-mapping. When the recording of all known species of Victorian insects is completed it will be a fulfilment of two of the objectives of the Society ((b) and (c) on inside front cover). We also saw a tentative agreement on a grid system to be used on all animals and plants. This will be most useful when all the surveys are completed, although it will be a very long term project, and will need co-operation from all societies, government bodies and members of the general public.

It is very good to see that one of our members has recently had his amateur entomological activities recognised by an award.

To the members: this Society only functions for you, and your help is needed to make excursions and other functions successful. The office-bearers and the Council always like to hear of new ideas from members and are interested to discuss them in the hope that they may lead to changes which will benefit the Society.

Lastly, I wish to thank the other office-bearers and the Council for their help in running the Society successfully, and I hope this will continue for my next six months as Secretary.

METHODS FOR KEEPING COLONIES OF EXONEURA (HYMENOPTERA, ANTHOPHORIDAE)IN ARTIFICIAL OBSERVATION NESTS

by Michael P. Schwarz

The primitively eusocial bees of the genus Exoneura construct nests in the pith-like centres of dry stems or in soft decaying wood. The nest typically consists of a burrow along the length of the stem with a constriction at the entrance, brood cells and chambers being absent. Colonies are started by one or more females and larvae are reared progressively in the common, communal burrow; when the first progeny become imagines they may assist the founder of the colony in foraging and tending the larvae, but there does not seem to be a rigid social structure and many or all females may lay eggs as well. Michener (1965) has shown that 'queens' are generally larger than workers and probably live longer. The relatively simple nest and interesting social behaviour make Exoneura an ideal subject for study.

Artificial observation nests should ideally allow easy and unobstructed viewing of the colony, whilst not interfering with the bees or affecting their behaviour. In trying artificial nests the greatest problem has been the tendency for condensation to form, killing the larvae and impeding the adults. Two types of nest have been tried with a fair measure of success - those consisting entirely of glass and those in which the original nest is split longitudinally and half is inserted into a glass tube.

The former type are described by Michener (1972) for use with the related genus of Braunsapis and consist of a glass tube with a bore of as nearly the same size as the original nest's diameter as possible. Max Sargent (pers. comm.) has found that when these tubes lack the constriction at the entrance found in the wild nests the bees are unable to defend the nest adequately from ants. A constriction can be made by holding the end of the glass tube in a flame until the glass becomes soft and rotating the tube continuously until the constriction forms. The process can be continued until the constriction is the same as that in the original nest. The other end of the tube is plugged for a distance of several centimetres with a soft pithy material that allows the nest to be extended by the bees. For this purpose pith removed from dry blackberry (Rubus fruticosus) was found to be excellent, though entomological polyporus pith is also satisfactory and has the advantage of being easily removed. As the glass lets in light it must be sheathed in an opaque material. I use the dry hollow leaf stalks of Aralia japonica, the tubes being placed inside with only the entrances protruding. If the nests are to be left outside permanently it is advisable to cover the plugged ends with plastic to prevent rain from seeping into the pith. This type of nest is suitable for observing interactions between adults, but it has the serious disadvantage that condensation forms readily inside the tubes.

Artificial nests of the second type were found to be more suitable. They were made by carefully longitudinally bisecting nests and inserting one of the resultant halves into a glass tube. Only those nests that are in relatively thin, straight stems can be used; any thickenings of the stem or branches must be cut away to allow complete contact with the glass and the branches must be completely dry before insertion. A glass tube with an inner diameter slightly smaller than the outer diameter of the nest is used. Half of the nest is inserted until only a small part of the entrance protrudes, providing traction for the bees entering and leaving the nest. If the original constriction is left intact there is no need to constrict the glass tube. This type of nest was found to be more suitable if colonies are to be permanent, as the absorbent qualities of the inserted nest reduce condensation and provide traction. Nevertheless rapid changes in temperature and excessive heat must be avoided.

With the colonies used so far, mainly Exoneura richardsoni and E. hamulata, the adults were found to readily accept the artificial nests, one colony remaining for almost a year despite severe condensation. Surprisingly, activities in the nest were not apparently radically altered, and behaviour remained unaffected even when the tubes were removed from the sheaths for observation.

In Victoria, Exoneura nests may be collected in the cooler areas of the state and often occur in large numbers in blackberry thickets, provided these are not in dense forest. The nests should be collected during inclement weather or at evening when all the bees will be present; the ends can be blocked with cotton wool and the nests taken home, where they are opened. The bees can be picked up with the fingers or grasped by the wings with forceps and held to the glass tube's entrance. In most cases they readily enter; if not, they can be gently forced in. During preparation of the nest the bees may be kept in pill-boxes. The eggs can be tapped in or placed in the bisected nest before it is inserted. For the first day the artificial nest should be plugged and kept in a cool place to allow the bees to become adjusted to it.

The sheathed tubes may be tied to the branches of suitable bushes in a position where they will not be exposed to direct sunlight, as this will cause condensation. Alternatively, several nests may be suspended in a cardboard box with only the entrances protruding (Michener 1972), the box being placed in a suitable situation outside.

These artificial nests are easily and cheaply constructed and have the advantage of being easily examined under the microscope without disturbing the colony. With the second type of nest the original half-nest may be removed to facilitate cleaning or removal of larvae, though this should be minimised. The observation nests described by Rayment (1951), utilising a small window cut in the nests covered by a glass sleeve which is rotated, were found to be unsatisfactory as the rotation of the glass sleeve can destroy the immature stages and the window does not allow satisfactory observation. In constructing and using the nests emphasis must be placed on measures to reduce condensation.

February, 1 975

The Victorian Entomologist

Acknowledgements

I am sincerely grateful to Professor C.D. Michener of Kansas University, U.S.A., for his interest and guidance, and for supplying many otherwise unobtainable papers.

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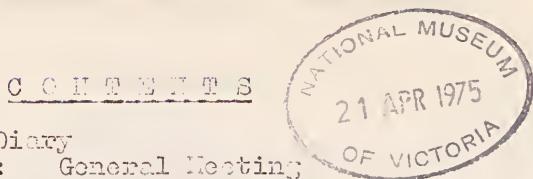
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Immediate Past President: Mr. C. McCubbin.

Councillors: Messrs. F. Hallgarten, O. H. Roggo, R. C. Manskie
& Mr. & Mrs. G. Burns.

Diary of Coming Events

April 18 1975 General Meeting, Clunies Ross House. 8.p.m.
Topic: Grid Mapping.

June 20 1975 General Meeting, Clunies Ross House. 8.p.m.
Topic: Film Night.

July 18 1975 Junior Exhibition Night.

April, 1975.

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Reports and Notices

General Meeting: Friday February 1975 at Clunies Ross House.

The President Mr.D.Crosby chaired the meeting which was attended by 37 members and friends. A special welcome was extended to Messrs R.Thibrow & R. Hurst, both attending for the first time. Mr. Robert Atkins was welcomed back from Queensland.

Apologies were received from MR.MRS.R.Manskie.

The minutes were postponed as the Journal had not been sent out to members.

It was decided at the February meeting of the Committee that from that meeting the speaker for the evening would be moved to third position on the agenda.

The guest speaker for the evening was D.T.New, whose subject was "Lacewings as a Biological Control."

After a question period on his talk was completed Mr.N.Quick proposed a vote of thanks.

Correspondance was received from:

Committee for the Australian Natural History Award.

The Learning Exhibits

The correspondance was accepted by D.Holmes, seconded by Mr.Le Souff.

Business arising from Correspondance:-

It was decided that a member would not be nominated for the Australian Natural History Award.

Treasurers Report. The treasurer advised that there was a total of 94 Financial members for 1974 and 12 Financial members for 1975.

Statement of Receipts and Expenditure for the year ending December 31.1974 was presented and published in this Journal.

The Treasurers report was accepted by Mr.D. Holmes seconded by Mr.P.Cohen.

General Business: It was decided to update the library by adding all outstanding issues of the Journal. There is to be a film night at the June meeting. A special meeting to be held on July 18 will be an evening for juniors to exhibit. Age groups and type of exhibit will be determined at the next committee meeting. Display boxes are to be made available to Juniors for this evening. All exhibits are to have been collected by the juniors themselves. Prizes are to be awarded in each group.

It was decided that a page of the Journal be made available for Juniors Questions and Answers on any entomological subject

The subject for the August meeting will be "Natural History Photography."

Excursion: - was arranged to Warburton and Mt. Donna Buang area on 2 March 1975. The meeting place was the Box Hill Fire Station at 9.30a.m. and at the Cairncroft Road, Launching place at 10a.m.

<u>Exhibits:</u>	Mr.P.Holberry	- Life History of Insects.
	Mr.H.Connor	- A selection of grasshoppers
	Mr.A.Atkins	- Number of <u>Pseudodipsas S.P.P.</u> from the Expedition Ranges.
	Mr.N.Quick	- A collection of insects from Kuranda, North Queensland.

ooOoo

Council Meeting: Tuesday 25 March 1975 Clunies Ross House
In attendance was Messrs. D.Crosby, J.Hallgarten,
N.Quick, J.Hutchinson, J.Caffin G.Mrs.Burns.

The Journal was discussed and it was decided to include the following in the next issue:-

A Junior Page.

Notes on excursions.

Publication of the 1973 & 1974 balance sheets

It was decided that the format of the General Meetings had been well received and was to be continued.

The Junior Exhibition Night was discussed and it was decided that 4 books would be given for prizes. These are to be donated by Messrs.N.Quick, P.Carwardine, D.Crosby & J.Caffin. There are to be 4 classes 2 under and 2 over 14 on the date of the meeting.

The classes are "A Broad Collection from a Garden." and "Single order Collection from Within Victoria."

Juniors unable to supply their own boxes are to see the Secretary or the President at the next General Meeting. Senior members were asked to bring along displays as examples for Junior members.

The judges are to be Mr.N.Quick & Mr.S.Le Souef.

Mr.N.Quick outlined the procedure to be used by the society for Grid Hopping.

Treasurers report: For 1973 & 1974 are published elsewhere in this issue.

Correspondance:= C.S.I.R.O. Film Catalogue.
Forests Commission of Victoria.
State Film Centre.
B.W.Vandy.
E.C.O.S. Magazine.
Aust. Ento. Soc. Magazine.
German Federal Republic

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SERVICE TO MEMBERS.

WANTED. "Insects of Australia and New Zealand" (Tillyard)
1926.)
Peter Carwardine, 2.a. Victoria Rd., Malvern, Vic.
. 3144. Phone 211-8958. After hours.

WANTED: *Neolucia mathewi*. Up to 10 specimens, mostly males
set or in papers and with full data. Specimens
from coastal N.S.W. would be preferable, and
will be purchased or exchanged for *N.hobartensis*.
W.H.B. Quick, 20 Alimara Rd., Glen Waverley.
Vic., 3150

THE ANPS AT THE CROSSROADS.

Notice is given to members that copies of the abovementioned Title are now available. If demand is sufficient a quantity will be obtained by the society.
Please contact Secretary: Mr. J. Hallgarten.

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NOTICE TO AUTHORS.

Reprints of paper/articles are available on written request only. Five reprints of each article will be supplied free of charge when requested, further copies are supplied at 2 cents per page per copy.

April, 1975

96 The Victorian Entomologist.

Honorary Treasurers Report.Statement of Receipts and Expenditure for the Year Ending
31st December. 1975

Credit balance B/Forward	31.80	
<u>Receipts</u>		<u>Expenditure.</u>
Interest Rec.	1.87	Library Council Rent 4.60
Subscriptions 1973	176.00	A.1 Offset Printing 36.80
Donations	40.00	Stationary for Journ. 42.20
Sales of Vict. Entom. Magazines.	88.40	Journal Expenses. 13.91
Plant sales	50	Clunies Ross Found. Projector use. 2.00
Advertising costs and Articles.	25.60	Subs. Aust. Entom. Soc. 10.00
		<u>Expenses Pub. Rel.</u> <u>Officer.</u> 10.72
Audited and found to be in accordance with the records submitted.		Envel. Post. etc. 20.11
Melbourne 3/3/1975		Editors Expenses. 5.31
..... Charted Acc.		Sec. Expenses. 3.00
H.B.Perry.		Cheque book 1.85
		Post Vic. Entom. Magazine. 80
		Receipt books. 15
		Treas. cheque exch. 150.85
		Credit Bal. Bank. 133.32
	284.17	284.17

April, 1975

97 The Victorian Entomologist.

Honorary Treasurers Report.

Statement of Receipts and Expenditure for the Year Ending
31st December 1974.

Credit Balance B/Forward 133.47

<u>Receipts</u>	<u>Expenditure.</u>	
Bank Interest.	4.01	Journal Prods.Paper 95.79
Subscriptions 1974	203.55	Envelopes 15.72
Donations	6.20	Treas.Stat. 1.50
Ex.subs.sales Vic.Ent'	12.20	Hire of Proj.& Cafe Bar. 11.00
Advertising fees re'd	36.50	Invoice head. 4.43
		Rubber stamp.
		Postage 27.51
	=====	Editors Exp. 10.72
		Typing. 5.00
		G.Broome & Co. Duplicating paper 49.34
		=====
		237.81
	Credit Bal. Bank	158.12
	359.93	395.93
	=====	=====

Excursion - Sunday 2 March 1975

Approximately twelve members and friends met at the corner of Horoondah Highway and Cairncroft Road about one mile west of Yarra Junction at 10a.m.

However, unfortunately a number of other members had proceeded to the end of Cairncroft Road before the main party arrived and we missed them. We apologise for this and will ensure that more precise details of assembly points will be given in the future particularly in the Journal.

Some local collecting was done in the bush beside the highway by the butterfly collectors and the following were recorded:-

- Trapczites Symmonus Soma.
- Signeta Flamineata
- Dispar Compacta
- Geitoneura Acantha Ocrea
- Heteronympha Penelope Sterope
- Some moths and moth larvae were also taken.

After about an hour the party moved to the Cement Creek turntable on the Mt. Donna Buang Road. Here more butterflies were caught, the main ones being:-

- Signeta Flamineata
- Graphium Macleayanum Macleayanum
- Oreixenica Kershawi Kershawi
- Hypochrysops Byzos Hecalius
- Zizina Otis Labradus

A short drive took us to the summit of Mt. Donna Buang where we took a break for lunch.

Until the sky clouded over about 4.p.m. butterflies and moths were plentiful in the clearings, particularly where "Flame Weed" was in bloom.

The following were recorded:-

Graphium Macleayanum Macleayanum	.. a few
Heteronympha Penelope Sterope	.. one male only
Heteronympha Solandri Solandri	.. males common some f.
Oreixenica Kershawi Kershawi	.. one male only
Oreixenica Correae	- very common both sexes
Together with some interesting unidentified moths and moth larvae.	

All the participants appeared to have an enjoyable outing resulting in specimens to add to their collection. As always it was good to be out in the bush again.

D.F.Crosby

SPRING CAMP ON BLACKDOWN PLATEAU.

by J. Jo Souëf

Early in September 1974, four of us, Ray and Nola Manskie and ourselves left Melbourne to rendezvous with Andrew Atkins on the Blackdown Plateau, west of Ro Khampton. They broke their journey at Maryborough in Queensland where Ray looked over his old collecting places and had a long session with Joe Manskie, discussing the local fauna they knew so well.

We drove up the Newell Highway a ten a flood detour through Wagga. Along the road we spent time looking for Osyris with the good fortune of finding a colony of O.ozozine near Dubbo, the first for a number of years. On the Galinia tussocks in the pilliga scrub, Mary found several first instar Hesperilla donnysa larvae.

With a view to night collecting with the MV light we had arranged our trip so that we could spend a night at Isla Gorge Lookout. We were hopeful that there would be the same variety of insects we had seen there at the same time the year before. However, with the very cold winter there were few flowers and only a limited number of insects about, while the light attracted a few moths, beetles and other insects.

On their way North Ray and Nola spent much time searching for Oxiris at various spots along the road.

A telegram from Andrew, who had been staying with his family near Gosford, advising us that he had arranged permits to stay in the Forestry Reserve was the last requirement before we could take the road up the escarpment and set up camp in the picnic area on the Blackdown Plateau.

We arrived shortly after Ray and Nola and after a quick lunch took off for the main collecting area. As with Isla Gorge, the cold winter and later season had a marked effect on the insect species to be seen, most of those in numbers the year before being either absent or with odd species, only L. boeticus and M. Halyzia at all common

Andrew arrived on Sunday, the next day, and we settled down to a week of searching, collecting and discussing. Again this year we had the pleasure of a visit from Ernest Adams, the beetle man from Mungalba, not far away on the lower country, who has been collecting extensively on the Expedition Range in recent years. A list of the species he has taken here, and elsewhere in Queensland would be a welcome addition to that compiled by George Brooks on the Beetles of North Queensland, so sadly neglected in literature.

Apart from collecting on the tea tree patch, much time was spent wandering through the forest and scrub looking for Itycaenid and Hesperiid life histories and checking on the distribution of various other species on the plateau.

Although generally, the number of insects was so much less than the previous year, Ray added two species of Satyrids to Andrew's list while he added one Hesperiid and one Itycaenid himself.

After a most interesting week, Ray and Nola made their way back to Maryborough calling at Stanwell and Yeppoon on the way. For our part, Andrew joined us on the road to Emerald, Clermont and Charters Towers, with the objective of looking at the sandstone range at Burra, further on. Over the lunch table at St. Lucia University a year earlier Dr. Marks had mentioned that the Society for Growing Australian Plants had made a special excursion to Burra from Brisbane to see the wild flowers. Naturally a special display of flowers in that country suggested an insect population, so we at once decided to pay a visit ourselves. Arriving towards the end of the day after a long trip we were expecting a dry camp. However to our surprise we found a well grassed caravan park nearby at Pentland and set up camp there instead. We were intrigued at the pink coloured walls to shoulder height in the showers and cream further up, but realised that this caravan park is mainly used by slaughtermen at the local abattoir.

The range at Burra indeed looked a promising area with acacias and eucalypts and many smaller shrubs and bushes, but we were there in the dry season with almost a complete absence of flowers. The only things in flower was a tall spike with creamy flowers but no leaves.

From the parking area at the roadside on top of the escarpment most of the ridges and valleys seemed composed of bare sandstone with patches of decomposing rocks here and there held together with spinifex. We explored ridges and valleys but there was very few insects at all to be seen on the wing. On odd tussocks of Gahnia aspera there were some Hesperilla raindeva while several Trapezites larvae were on Lorandra. As Andrew had found that neither would transfer successfully to another species of foodplant.

After lunch we went to a nearby hilltop where Andrew took two Oryxis iphis, considerably extending its range of distribution. I took several small Stigmodes on the tall flower spikes.

Andrew elected to stay for the night and try for some Oziris iphis again next day before returning to Rockhampton via Bungella. We decided to move on to Springsure to see if we could add to Lex Hould's list of species there published in the Australian Entomological Magazine. Although the tourist road to the summit of Cathedral Rock was rough to move on, to say the least of it, we managed to go most of the way before losing traction and sliding backwards on the loose scree of the steep road.

Half way up on a small plateau there was an area of small pink flowered bushes in flower attracting many skippers. There had just been an emergence of Hesperiilla furva with approximately 500 of them flying over the area feeding on the flowers. Several other species of skippers were also seen.

Although the number of specimens collected was limited this trip was most satisfying; in that we had driven some 3000 miles, camped for a week in one spot and leisurely looked at many spots along the road, all in three weeks.

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JUNIOR NIGHT. July 18 Clunies Ross House 8 p.m.

The subject for exhibits are:-

"A Broad Collection from a Garden."

"Single Order Collection from within Vic."

Each subject will be divided into 2 age groups, under and over 14 years of age.

Juniors unable to supply their own display boxes are asked to see either the Secretary or President at the next General Meeting.

April 1975

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LACEWINGS (NEUROPTERA) AS BIOLOGICAL CONTROL AGENTS.

Summary of address to the Victorian Entomological Society,

February 21st 1975

Dr. P.R. New

Zoology Dept., La Trobe University, Bundoora, Vic. 3083.

Many kinds of insect predators are currently being used in attempts to biologically control a wide range of pest arthropods, especially in the field-crop orchard situations. Amongst these are members of two families of Neuroptera and the Chrysopidae ('green lacewings') and Hemerobiidae ('brown lacewings'). Both families are geographically widely distributed and particular species may thus be useable in two pest-control contexts:

1. Local augmentation of species naturally occurring in an area, by mass release of commercially reared material and/or use of attractions, to provide local short-term control.

2. Introduction of species into areas from which they were formerly absent. With lacewings this is rather rare, but occurs in two distinct situations: (a) into areas with a depauperate fauna - e.g. New Zealand has no native Chrysopidae and (b) in areas where the native predators fail to attack an introduced pest - e.g. Hawaii. With introductions, usually aim to establish the predator in a persistent association with the target pest, that is, aim for longer term control.

Usually a range of potential predator species are available and although it may be desirable to introduce all, the pronounced cannibalism widespread in lacewing larvae may dictate against this through enhancing other adverse competitive effects between predators, and it may be preferred to select particular predator species (lacewings) from the available range. Some of my recent work at La Trobe is orientated towards studying the comparative ecology of several Australian lacewings found on Acacia (Drepanacra binocula, Micronus tasmaniæ, Chrysop spp) with the aim of clarifying the bases for objective assessment and selection of the more useful species for control of Psyllidae, an Australian species which has recently become a pest on Acacia in both Hawaii and California.

To this end, we're concentrating on aspects of phenology, feeding ecology and reproductive biology of lacewings, (including such topics as (a) adult dispersal (b) larval searching behaviour and efficiency of prey capture, (c) efficiency of food utilisation and amounts of food eaten (using energy budgets), (e) prey specificity, (f) fecundity, (g) generation times and (h) incidence and effects of natural enemies, predominantly parasitic wasps in which regular field sampling is complemented by detailed laboratory work.

Hemerobiidae are predators as both adult and larvae, whereas adults of some Chrysopid species are not predators but feed on honey dews, yeast and similar substances. Such species studied in North America by Mayen and his colleagues contain symbiotic yeasts, which appear to aid synthesis of amino acids absent from the adult food. Some failures of Chrysopids introduced into 'new' areas to become established have been attributed to their being introduced without their specific symbionts: recent attempts to introduce Chrysopidae from California to New Zealand may prove to be an instance of this.

Commercial mass rearing in green lacewings has been pioneered in California, concentrating mainly on Chrysopa carnea, a native broad habitat spectrum species which is used as a facet in integrated control of many crop pests. It is usual to think of lacewings as one facet of an integrated control programme rather than the only control.

In this they appear to have some advantage over many other insect predators in being relatively resistant to many of the widely used insecticides. Further work on insecticide tolerances is needed, involving both laboratory investigations of survival under insecticide applications and field examination of survival following commercial pesticide applications. Rational selection of biological control agents can be based only on detailed knowledge of both the agent and the pest's ecology, and it is at present difficult to assess why many control attempts have failed or succeeded. Current work on lacewings may aid in rational assessment of effects of insect predators on prey populations.

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THE ODONATA (ODONATA) OF VICTORIA.

By

James P. Hutchinson

Abstract: A list is given of the Victorian odonate fauna, which is comprised of 64 species: 26 Zygoptera and 38 Anisoptera; with notes on rare species of interest.

One of the aims of the Entomological Society of Victoria is to compile a list of insects known to occur in Victoria; for most orders this will prove difficult and a continual task as they are not well known taxonomically. However for some groups the task is well within our reach at present e.g. the Odonata, and the super-families Hesperioidae and Papilionoidea of the Lepidoptera. These are well known taxonomically and reasonably popular with collectors.

The order Odonata is divided into six sub-orders of which three have forms living today, the others only being represented by fossil remains. The three living sub-orders are Zygoptera (Damselflies), Anisoptera (Dragonflies) and Anisozygoptera. Only the first two are represented in Australia, Anisozygoptera only being found in Japan and the Himalayas.

Zygoptera are generally fragile insects with the fore and hind wings similar in shape and venation, and the compound eyes separated. While the Anisoptera are more robust and the fore and hind wings dissimilar in venation and usually shape. Compound eyes touch or are just separated (O'Farrell 1970).

Australia has a total of 263 species and 20 sub-species of which 64 are known to occur in Victoria. The list that follows has been taken from Watson (1974).

Sub-order Zygoptera
Family PRODONURIIDAE

Isosticta banksi	Tillyard
I. simplex	Martin
Nososticta solida	Selys
Oristicta vallisi	Fraser

Family COENAGRIONIDAE

Austroagrion cyane	Selys
Austrocenemis slendida	Martin
Caliagrion lyelli	Tillyard
Ischnura aurora aurora	Brauer
I. heterosticta	Burneister

Mantispaliron erythroneurus Selys

Family *Hemipodagrionidae*

<i>Austrolestes calcaris</i>	Fraser
<i>A. griseus</i>	Selys
<i>A. ictenopodus</i>	Selys

Family *LESTIDAE*

<i>Austrolestes analis</i>	Rambur
<i>A. annulosus</i>	Selys
<i>A. aridus</i>	Tillyard
<i>A. cingulatus</i>	Burmeister
<i>A. io</i>	Selys
<i>A. leda</i>	Selys
<i>A. psyche</i>	Selys

Family *CHILOPOGONIIDAE*

<i>Synlestes tillyardi</i>	Fraser
<i>S. weyersi</i>	Selys

Family *HEMIPHLEBIIDAE*

<i>Hemophlebia mirabilis</i>	Selys
------------------------------	-------

Family *ALPHEOPTERYGIDAE*

<i>Diphlebia lestoides</i>	Selys
<i>D. nymphoides</i>	Tillyard

Sub-order ANISOPTERA

Family *GOMPHIDAE*

<i>Antipodogomphus acolythus</i>	Martin
<i>Austrogomphus australis</i>	Selys
<i>Austrogomphus sp."c"</i>	
<i>A. guerinii</i>	Rambur
<i>A. ochraceus</i>	Selys
<i>Menogomphus gouldii</i>	Selys

Family *AESCHNIDAE*

<i>Acanthaeschna atrata</i>	Martin
<i>A. flanomaculata</i>	Tillyard
<i>A. inornata</i>	Martin
<i>A. longissima</i>	Martin
<i>A. multipunctata</i>	Martin
<i>A. parvistigma</i>	Selys
<i>A. tripunctata</i>	Martin
<i>A. unicornis</i>	Selys

<i>A. victoria</i>	Selys
<i>Aeshna brevistyla</i>	Rambur
<i>Austropetalia patricia</i>	Tillyard
<i>Henianax papuensis</i>	Burnoister
<i>Notoaeschna sajattata</i>	Martin
<i>Telephlebia brevicauda</i>	Tillyard

Family SYNTHEMIDAE

<i>Busynthemis brevistyla</i>	Tillyard
<i>E. guttata</i>	Selys
<i>E. virgula</i>	Selys
<i>Synthemis eustalacta</i>	Burmeister
<i>S. macrostigma orientalis</i>	Tillyard
<i>S. regina</i>	Selys

Family CORDULIIDAE

<i>Cordulephya pygmaea</i>	Selys
<i>Hemicordulia australiae</i>	Rambur
<i>H. novae-hollandiae</i>	Selys
<i>H. tau</i>	Selys
<i>Procordulia jacksoniensis</i>	Rambur

Family LIBELLULIDAE

<i>Austrothemis nigrescens</i>	Martin
<i>Diplacodes bipunctata</i>	Brauer
<i>D. haematodes</i>	Burmeister
<i>D. melanopsis</i>	Martin
<i>Nannophya daleidalie</i>	Tillyard
<i>Orthetrum caledonicum</i>	Brauer
<i>O. villosovittatum</i>	Brauer

Only one species of *Austrolestes aridus* (Lestidae) is known from Victoria, it was taken in the Big Desert during November 1973. It is a wide spread species, known generally from Australia, except the northern part of the Northern Territory, the Kimberley region and the northern part of inland Queensland (Watson 1974). The type locality is Tennant Creek in the Northern Territory (Tillyard 1907).

Heniphlebia mirabilis (Hemiphlebiidae) is only found species in the family and is of considerable phylogenetic interest because of its primitive features. It is found possibly only at Alexandra in Victoria; the type locality is Bowen in Queensland but this was doubted by Tillyard and Fraser (1958).

There is one undescribed species of Austromorphus (Gonphidae) which occurs in Victoria as well as eastern New South Wales and the south-east of Queensland.

Martin (1909) stated that Acanthaeschna victoria (Aeshnidae) occurred in Queensland, New South Wales and Victoria, while Fraser (1930) gave it rare status and south-east Australia as its distribution, whereas Watson (1974) limited its distribution to Victoria with a question mark. Further collecting of Acanthaeschna species will help ascertain the status and distribution of the species.

Hemicordulia novaehollandiae (Corduliidae) is known from one imperfect female and is of doubtful specific status (Fraser 1960; Martin 1906; Watson 1974).

ACKNOWLEDGEMENTS

My thanks to Dr. J.A.L. Watson for permission to use his list.

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The Entomological Society of Victoria

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's journal, the "Victorian Entomologist". At intervals, mainly during the warmer months, excursions are arranged to areas of topical interest.

Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings are held at Clunies-Ross House, National Science Centre, 191 Royal Parade, Parkville, V., at 8 p.m. sharp on the second last Friday of even months, the Annual General Meeting being held in June. Visitors are always welcome to attend.

Annual Subscriptions for 1975

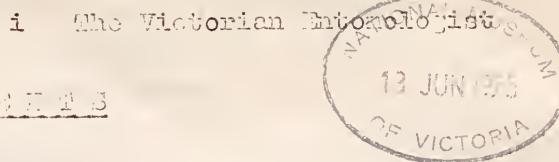
Ordinary Member	4.00 (Aust.)	6.50 (U.S.)
Student Members under 18	2.00 "	3.25 "
Associate Member	1.00 "	++++++

No separate Joining Fee is payable. Associate Members, resident at the same address as, and being immediate relatives of an Ordinary Member, do not receive a separate copy of the Society's publications, but in all other respects rank as Ordinary Members.

Notwithstanding the rates shown herein, rising costs may at some stage necessitate an increase in Subscriptions without separate notice other than notification at Meetings.

The statements and opinions herein are the responsibility of the respective authors, and do not necessarily reflect the policy of the Society.

June 1975



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ENTOMOLOGICAL SOCIETY of VICTORIA

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& Mr & Mrs G.Burns.

Diary of Coming Events

June 20th 1975 Annual General Meeting, Clunies Ross
House. 8p.m.
Topic: Film Night.

July 18th 1975 Junior Exhibition Night.

August 27 1975 General Meeting, Clunies Ross House,
Topic: Photographic Demonstration Night,
by Kodak.

October 24 1975 General Meeting, Clunies Ross House.
Topic: To be announced.

December 12 1975 Members Night. Clunies Ross House. 8.p.m.
N.B. This is the second Friday in December.

Reports and Notices

General Meeting: Friday 13th April 1975 at Clunies Ross House.

The President chaired the meeting at which there were 33 members and visitors.

Apologies were received from Mr & Mrs D Holmes.

A talk was given by Mr H. Quick on Grid Mapping in which he explained the procedures that the society would use, showing the various forms involved.

Details of what was expected from members was outlined.

Minutes for both December 1974 and February 1975 meetings were approved.

The Juniors Exhibition Night was again mentioned, and juniors were reminded that they were to use their own boxes if possible.

Correspondence was received from:

Australasian Conservation Foundation.

The Treasurers Report indicated a credit of \$123.91, with 43 Financial Members.

General Business:- 10 copies of "Alps at the Crossroads" were to be purchased for sale to members at \$2.50 each.

An excursion to La Trobe University is to be arranged for the 27th or 28th June, 1975. The exact date to be advised at the June meeting.

There was some discussion on speakers for the meetings for the rest of the year.

Exhibits.

There were a number of exhibits from our new member, Graeme Raymond.

The e included:- Butterflies from Cooktown - Queensland, December 1972 & Jan. 1973, also some Beetles from Coolool and Proserpine.

Minutes of the Council Meeting held on the 5th May 1975

Present:- Mr D Crosby, Mr J Hallgarten, Mr R Manskie
Mr & Mrs G Burns & Mr H Quick.

Apologies were received from:- Mr F Hallgarten,
Mr B Condron, Mr J Hutchinson, Mr J Caffin, Mr O Rosse
Mr D Holmes and Mr C Mc Cubbin.

The following items were discussed:-

Speakers at the October Meeting.

Excursions - some winter excursions to C.S.I.R.O
Agriculture Department and other places.

Grid Mapping - To start production of the single
species and field cards.

Correspondence:-

Public radio discussions

Dandenong Valley Metropolitan Park proposals.

Mr A.R.Dean - renewal of subscription.

Notice of the Annual General Meeting and request
for nominations to be printed in the Journal.

Reports from the Land Conservation Council
covering the Ocean Grove area were discussed following
information provided by Mr A.Bishop.

The general problem of publicising the society
and its activities was discussed.

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NOTICE OF 1975 ANNUAL GENERAL MEETING.

The 1975 Annual General Meeting and Election
of Office Bearers will be held in conjunction with
the June General Meeting, commencing at 8 p.m.
Friday 20 June 1975, at Clunies Ross House.

Nominations in writing and signed by Proposer,
Seconder & Mounee, should be in the hands of the
Secretary 7 days prior to the Annual General Meeting.
A blank nomination form is enclosed.

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A REVIEW OF BUMBLEBEE PROTECTION AND CONSERVATIONby
W.H.B.Quick.

It seems high time that the situation regarding effective protection and preservation of insect species, especially the Lepidoptera, is re-examined in proper perspective. A repetition of the recent ill-considered and apparently uninformed approach to the Queensland Fauna Conservation Act (1974) is to be avoided at all costs. This lamentable act, which appeared at first to be the inevitable product of ignorance, is now understood to have been perpetrated in total disregard of sound professional advise. If serving no other useful purpose, it has admirably demonstrated the lack of understanding of the basic considerations involved, and the level of incompetence which must be anticipated in the future.

Restrictions placed on the collection or trapping of specimens may secure some degree of protection of endangered avian and mammalian fauna. Entomologically, the approach is unsound. Birds and mammals, being for the most part independent of any single specific host, and having a minimum life expectancy of several years, are equipped to survive one or more seasons of adversity, during which little or no breeding may take place. In contrast, the life expectancy of an adult insect may cover a few weeks, it may be as brief as a single day. Whatever the case, it represents the climax of an extended larval period, during which all species are totally dependent on the availability of one or other specific host plants, and/or the co-existence of some other organism. The number of individuals surviving the juvenile stages is the major determinant both of the survival of the species, and the level of the adult population. The species will not survive should the availability of the essential host fail for but a single cycle. The host plant therefore, and not the adult insect, must be the logical primary recipient of any protection.

In the case of Ornithoptera priamus euthorion, the 'Cairns Birdwing', and one of the two species afforded protection under the Act, the major host plant, Aristolochia indica, is largely restricted to the richer soils of the coastal scrubs and rainforest fringes. Clearance of these scrubs for agricultural purposes has already greatly reduced the abundance and continuity of distribution of this plant, and any further substantial

reduction may well result in a marked depletion of the butterfly population, or its disappearance from large areas. It might be borne in mind that this was precisely the fate of the southern race, O.p.richmondia once a familiar sight in the Brisbane and Richmond River districts.

Under extreme conditions, when an abundant and prolific species is 'condensed' into areas deficient in host-plant, the species becomes endangered not only by the threat of starvation at the larval stage, nor even by the cannibalism which frequently occurs, but by the attack of predators to which any abnormal concentration of larvae is an open invitation. Even now it is not difficult to find host plants eaten bare by an excessive concentration of young larvae.

In any stable insect population of normal density a large percentage of eggs is nevertheless pre-destined to perish. That this fact can be readily utilised in the case of Ornithoptera is amply demonstrated by the number raised each year on cultivated plants. A criticism which has been levelled at breeders, that they are enticing the butterfly rather than breeding them, is a half-truth. Perhaps the term 'husbanders' would have been preferable. Female butterflies have free access to the cultivated plants, from which the eggs are collected. Larvae from these are reared under conditions in which they are protected from attack by predators and losses through other causes. The result is an enormous increase in the survival rate with a corresponding increase in 'husbanded' adult insects. A proportion of these, more possibly than would have survived natural conditions, is released. These not only maintain the supply of eggs on cultivated plants, but reinforce the natural surplus.

Rather than preservatin of breeding habitats however, or, optimistically, the encouragement of husbandry, we have the paradoxical if not ludicrous situation in which the butterfly is given protection on one hand, while the same government is actively promoting development of the industries most responsible for the reduction of both host and habitat.

An interesting, if unusual, condition exists in the case of this particular butterfly. As the reduction in availability of its native host plant proceeds, the relative abundance of the introduced Aristolochia elegans ('Dutchman's Pipe', originally cultivated as a garden plant) increases. An increasing number of eggs are then being wasted, for although the female insects recognise the plant as appearing satisfactory,

and sea daily oviposit on it, the foliage is almost invariably fatal to the larvae. The potential significance of losses which might arise from this cause is difficult to assess at this stage.

Preservation of breeding habitat may on occasions, and with certain species, be a relatively simple matter. More often it is not. In the case of many of the rarer Lycaenidae for example, mere survival of the species is critically dependent on a multitude of inter-dependent factors so intricately interwoven within the immediate ecosystem, that once upset recovery is unlikely. In what appear to be the simplest instances, where the host may be a single abundant plant species, many complications may arise. It cannot be assumed, for example, that host plants, even when abundant in the immediate vicinity of where the adult insects are seen flying will provide a breeding habitat. A common situation of this type occurs when the host, although abundant, is not in active growth and providing either young shoots or flower buds at the time the adult insects are flying. This situation is a major control on the population of many of the Pieridae.

The condition of the host plant may sometimes be a critical factor, and is neither readily definable or predictable, being apparently governed to some extent by the varying response of individual plants to stimuli such as drainage, temperature and fluctuations in rainfall. Under some circumstances or local climatic conditions, host plants which might appear ideal will actually prove toxic to larvae. This condition appears to be detectable by the female insect, which will avoid ovipositing on such plants. The toxicity, possibly due to the presence of alkaloids, may be linked with new growth following abnormally dry periods, or on plants which have suffered root damage, desiccation resulting from nearby clearing, or some dramatic change in ground-water levels.

Often overlooked even by experienced field workers is the vital role played by 'support' plants, flowering plants which provide a local source of nectar so essential to the smaller species lacking powers of sustained flight. While these plants are often Compositae, flowers of the host itself sometimes serve in this capacity. Most commonly Craspedia and allied genera are involved, together with ubiquitous dandelion group. In some areas Pinelea and Leptospermum are of major significance.

These support plants are invariably species responsive to seasonal variation to the same extent as are the butterfly larvae. Thus in a mild season when insect emergences tend to be earlier than normal, they will be accompanied by an abnormally early flowering of the support flora. The importance of these plants is at a maximum in the drier inland areas, their presence or absence often being the sole factor controlling the selection of localised breeding habitats from endless miles of otherwise suitable terrain.

The consideration of these few factors which have been discussed will provide some appreciation of the very restricted areas which are likely to provide all criteria in a state of ideal conformity. The extremely localised distribution of some species is axiomatic, and preservation of such areas must take into account not only such factors, but also make provision against the effects of ageing host-plants, the effects of fire, flood and drought, of population explosions amongst prey or predator of the presence or absence of attendant ant species, and protection from the 'artificial' hazards such as herbicide and insecticide drift, and climatic change due to large-scale land clearance. In the broad view then, it is seldom reasonable to create a breeding environment. Existing areas must be located, and protection provided in the form of a substantial buffer areas.

It is safe to say that with the vast majority of insect species, amateur collecting (as distinct from continued large-scale depredations on wild stock) and commercial husbandry of adult insects will have little, if any, discernable effect on the population density. Individual winged insects are vulnerable to capture for fleeting moments of their life span. Man's efficiency as a captor cannot approach that of winged and other predators to which adult insects are continually exposed, nor can his patience and thoroughness match the relentless searching of mammalian and insect predators on the juvenile stages, will most often put the predator rather than they prey at a disadvantage, simply by rendering the task of locating prey more difficult.

The voluntary protective measures placed on Oxalis obtusa by the Entomological Society of Vict. (Vict. ent. 4:1) appear to have been most successful in spite of a succession of adverse seasons. It seems most unfortunate that powers of legislature are not directed towards preservation of the habitat

of the many other scarce, if less conspicuous species which are already endangered and in need of some degree of protection. The abolition of the right of individuals to collect specimens is not the answer. It will protect a species no more than abstinence from bread will prevent the failure of a wheat harvest, and can achieve nothing other than the destruction of genuine interest. And where there is no interest there can never be understanding.

ooOoo

A FUTURE JUNIOR MEMBERS.

Do not forget to prepare your entry for the Junior Display Night.

13 July 1975

Exhibits must be in one of 2 categories:

1/ A Broad Spectrum Collection From A Single Garden.

2/ A Single Order Collection From Within Victoria.

Each category is divided into two groups:- Under 14 years of age on the date of the meeting.

Fourteen years and under 18 years.

Prizes will be awarded to winners.

ooOoo

A SHORT NOTE ON COLLECTING IN VICTORIA'S S.E. CORNER.by
R.C.Hanskie

On the weekend of March 10-2 this year, my friend and I drove to Archie Mays' property at Moorinbee N., 16 km. north of Cann River. I went with the intention of collecting Heteronympha paradelpha paradelpha (spotted brown), this was achieved as I had previously, thoroughly checked dates and locations.

Saturday was spent exploring and seeking new locations. Sunday morning we drove approximately 11km. north of Moorinbee N., to a sloped timbered gully. Since January this area had had a substantial fortnightly rainfalls, so weather conditions were ideal, sunny and humid, and the food plant (poa tenera) for this species was abundant. Several newly emerged female species were netted.

Returning, we stopped again at 'Beehive Creek' 3 km. south of our first destination, and was fortunate to net Hypocysta euphemia (rock ringlet) this is a pleasing addition to my collection, as it is the first time I have taken this butterfly in Victoria.

The following were observed in numbers:-

Trapezites symmonus symmonus

Hesperiilla idothea idothea

Hesperiilla picta

Delias harpolyce

Geitoneura acantha ocrea

Geitoneura klugii klugii

Heteronympha merone merone

Heteronympha penelope penelope

Heteronympha banksii banksii

Tisiphone abeona albifascia

Jalmenus evagoras evagoras.

SOME NOTES MADE AT THE DONNA BUANG EXCURSION.

by
Peter Garwardine.

On 1/3/75 I attended an outing with some other members of the society to Mount Donna Buang.

At Content Creek I obtained several very colorful "looper" larvae feeding on Atherosperma moschatum ("Southern Sassafras"). These were taken home with a quantity of food plant and have since pupated, but as yet have not emerged to still be identified.

At Mt. Donna Buang summit I caught 3 larvae on Senecio linearifolius (fireweed) which were fed at home. Two of these died and Tachinid flies have since emerged. The third pupated on 17/3/75 and emerged on 12/4/75, and was identified as Hyctenera aenica (Cineraria Moth).

At Mount Donna Buang I sighted on Vanessa kershawi ("Painted Lady").

On the return trip we stopped at Marriien Road Reserve, Croydon, where I found larvae of the moth Hela metallopa on Eucalyptus, Oryctes ancyroides ("Tussock Moth") on Acacia sp. and cocoons of one of the "Cup Moths" (Tiliacodidae).

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OBSERVATIONS OF PAPILIO ANACTUS.

by
Peter Garwardine.

During the last week of February and the first two weeks of March I saw about 10 Papilio anactus in the Caulfield - Malvern area.

During early March I collected 10 Papilio anactus larvae from neighbours' lemon trees and two from my own tree in Malvern during the middle of March.

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INSECTS OF THE VICTORIAN NATIONAL PARKS.PART 1. - BUTTERFLIES.

by: D.W.Crosby, F.R.M.S.

Introduction:

This paper lists those butterflies positively identified in the various parks so far surveyed. In some cases records precede the formation of the particular park. (e.g. Little Desert) but are included where the points of collection are known to be within current Park boundaries. In some of the more remote areas it is often difficult to clearly define Park boundaries and records taken from areas in close proximity in contiguous bushland are included where it is felt the range of the insects certainly extended within the Park itself.

The current survey indicates several quite interesting areas which clearly require intensive study, e.g. Wilson's Promontory, Wyperfeld.

For ease of reference the records are listed under the specific Parks. Where it is felt significant and it has been possible to describe the point of collection relative to a known land-mark, such has been noted.

There still being much to learn about the habits and life history of the Australian butterflies notes on particular behaviour, food plants or habitat have been mentioned as thought relevant.

Nomenclature adopted is that used in "Butterflies of Australia" by Common and Waterhouse 1972 and the use of common names has been dispensed with as it is felt to be confusing. As a guide, the species for each Park are listed under the relevant families.

HATZIBIENES.Family: HESPERIIDAE

HOMALIUS AEGEUS LIMA 1972 - Small number of larvae and pupae recorded and 5 adults seen, 3 males netted. Larvae feed on Grevillea laniigera, making a small inverted tent like shelter out of several leaves. There is a second brood in late March to early April, specimens recorded by the previous Ranger, cover the period 20th March to 19th April. The first brood extends from early September to early October, with this appearing to be the bigger emergence period. A chalcid wasp parasite was bred from one pupa, but parasitism does not appear to be prevalent. The species is not common as the food plant is very restricted.

TARACTROCHETUS PAPYRIA PAPYRIAPAPILIONIDAE

PAPILIO ANAXIAS
PAPILIO DEMOULUS STIMMELIUS

P. HERDIE

CATOSILELLA BYZANTINA COKERI
MONARCHA SUBLAK
DEHALIS AGAMIPPE
ANAPHEES JAVA TUTONIA
PIERIS RAPAE

NYMPHALIDAE

DANAUS PLEXIPPUS
DANAUS CHRYSLERUS PIGMALIA
HECATEA CLIVIA MEROPE MEROPE
VANESSA KERSHAWI
VANESSA TIRRA
PRINCIVILLIDA CILLYBE

LYCAENIDAE

OGRIS GENOVEVA
OGRIUS OLIVE OLIVE
OGRIUS LEWISONE MERIDIONALIS - on Casuarinas near
HACCIUM BILOCULATA BICOLLATA Rangers' cottage.
LAMPRODES BONNICHUS
NEOLUCIA AGRICOLA AGRICOLA - End October.
NEOLUCIA SERPENTATA SERPENTATA 6/4/63, 1 female
at lake.
ZIZINA ODIS LABRADUS

ZIZYPHUS SPINOSA K. BANDA. This species is only taken near the lake from January through to May but is common in late March and early April when both sexes are flying, often near Glinus lotoides or Tribulus terrestris either of which could be the food plant. Common 5/4/62, both sexes.

CANALIDIS HYACINTHINUS SIMPLEX. 25/9/72 three males caught near Cassytha which was obviously the food plant. This species is wide spread in the drier areas associated with Cassytha and doubtless several colonies would exist apart from that near the main entrance of the Park.

CANALIDIS CYPRINUS CYPROTUS
CANALIDIS TERRITRI HEMIM

Note: As instance of the former Ranger, Mr. W.M.C. McDonald is gratefully acknowledged in the compilation of this list.

HYPPONEPHID.

Family: LYCENIDAE.

HAGADUDA BICOLLINA BICELLATA 5/11/60 common, associated with Acacias near Eastern Lookout.

NEOLUCIA AGRICOLA AGRICOLA 5/11/60 common but poor condition. Usually associated with flowers of native legumes.

NEOLUCIA BERPETITA 5/11/60 Fairly common.

THECLINESTHESONYCHA. Fairly common on sand dunes on Western Boundary in May and June 1961. One very dark male taken 5/11/60 .. May represent a different species which may have been feeding on Acacias. Some species were subsequently collected in March and appear to be the same as the May/June specimens. and closely resemble other examples recently caught, in October in the Big Desert area. All are completely different from the shining silky blue representatives from South Australia, where the food plant is Adriana klotzschii.

(The genus Theclinesthes is currently being reviewed)

CANDALIDIS HYACINTHINUS SIMPLEX. Several specimens seen near Eastern Lookout in November. Specimens subsequently caught in March showed variable coloration similar to form Josephina.

LITTORAL DESERTS.Family: ASPsALIIDAE.

THEOREMIS SCIRON AEGYPTIACA. Generally found on or near sand dunes in October and November. Females rare. The larvae feed upon Lomandra glauca, and pupate in shelters low on the plant. This species has a very interesting distribution having been recorded elsewhere (apart from the Big Desert) only in South Western Australia.

MOTASINGHA DIREKHA TETRACHIA. Also found on or near sand dunes, usually with the above species. Females also rare. Food plant is Lepidosperma sp. Adults fly October and November.

PLATYDIDAE.

ANAPHEIS JAVA TEUTONIA. This migrant is frequently seen throughout the year.

NYMPHALIDAE

VANESSA KERSHAWI. Often common, particularly in the moister areas.

LYCENIDAE.

OCHYRIS IDMO HALIMURIA. Only recorded by Mr. H. Hatchley in November.

HYPOCRYSOPS IGNITA IGNITA. A good colony exists near the salt lake, associated with Iridomyrmex ants and feeding on Brachyloma daphnoides. Although wide spread the species is not common.

NACADUBA BIOCCELLATA BIOCCELLATA. Odd specimens seen. Normally on Acacia fodder.

LAMPIDES BOOMICUS

NEOLUCIA MADICOLA AGRICOLA. Not rare, mainly in healthy areas.

NEOLUCIA SERPENTATA SERPENTATA. Not uncommon at times

ZIZINA OTIS LIBRADUS. Common at times, mainly in moister areas.

CIMBALIUS CYROTOS CYROTUS. Common at times, generally October/November but females are rare. Males fly on or near dunes, usually the tops, females in the heaths betw n. Food plant not known.

CIMBALIUS ICICUS. Often common in September/October. Feeds on Cassytha sp.

CIMBALIUS JULCINTHINUS SIMPLEX. Sometimes common. Larvae feed on large species of Cassytha.

MOUNT BUFFALO.

Family: HESPERIIDAE.

HESPERIA DOLLMUIA DRICHOIOPHORA. A good colony of this rather rare mountain species exists on the shores of Lake Catani. Both sexes fly in March.

DISPER COLFACTA. This wide-spread species is found in grassy areas, best below the actual plateau.

SILENTIA FILAMENTA. As for the prior species.

PAPILIONIDAE.

PAPILIO MACLEAYANUS. Not uncommon after Christmas on the peaks, e.g. The Horn and the Pinnacle. Flies up from lower altitudes where it breeds in moist gullies.

PIERODAE.

EURELLA SHIJI. Odd specimens seen, mainly after Christmas. A semi-migratory species.

DELIA AGANIPPE. Generally found flying or "sailing" around high spots often with P. MACLEAYANUS. Breeds on Mistletoe, probably lower down the mountain..

NYMPHALIDAE.

HETERONYXIA SOLANDRI. Flies in late December and January, generally in or near the edge of the forest. Seen at the top of the Gorge and Mackey's Lookout.

HEMIMORPHIA PLEIONOPA GENEORE. Does not fly generally as high up as H. Solandri. Late January to March Mackey's Lookout and below. Common in some localities along the road, particularly damp, grassy areas.

GENIOMYIA KLUGGI KLUGGI. Quite common at lower altitudes from November to March.

TISIPHOAE ABLONA ALBIFASCIA. Common in damp gullies and soaks where food plant, Gahnia sieberiana, grows, particularly at lower altitudes, Mackey's Lookout and below. But a few specimens seen at Reeds Lookout.

ORNITHENICA CORONE. Generally not common on the plateau although habitat is ideal. Flies late December to February. Mainly seen around Lake Catani in the grassy meadows and edge of the snow gum areas. Females can be seen as late as end of March.

ORNITHENICA LATHONIELLA LATHONIELLA. Common from mid-February to April, particularly around Lake Catani but in other areas too. As with all this genus, this species is a grass feeder.

ORNITHENICA PALUDOSA THRDDORA. This is a very interesting and archiac species and this sub-species restricted to the plateau mainly around Lake Catani. The males emerge late in February and are very difficult to distinguish from the following 3 above species. The females are quite distinct. Other species occur on Mt. Hotham, Mt. Kosciusko.

VANESSA KERSHAWI. Common at times. Wide-spread.

VANESSA ITALIA. Odd specimens seen at all times during the year. Probably hibernates below plateau.

LYCAMIDAE.

NBOLUCIA AGRICOLA AGRICOLA. Normally not at an altitude but a number recorded near the chalet in January.

ZIZINA OTIS LABRADUS. Common throughout, particularly in damp sunny areas.

NOM: Although not coming under the heading of "Butterflies", it is interesting to note that there is a small colony of "Glow Worms" in a cave a short distance from the chalet. Actually these are luminescent larvae of a species of "Fungus Gnats".
(Order: Diptera (Flies) Family: NYCTOPHILIDAE).

Generally the larvae are predatory and hang from a rock face by a sticky thread or tube to which insects become stuck after attraction by the light emitted by the larva. Some species flash their lights on and off, and most are, at some stage in their immature lives, dependant upon association with particular fungi found in the caves.

MILLICOON.

Family: HESPERIIDAE.

TRAPEZIALES SYNONYMUS SYNONYMUS. Specimens taken in January and February in warm sunny locations, generally in association with its food plant Lonandra longifolia.

TRAPEZIALES MELITA PRIMEDES. Rare. A few specimens taken in January.

DISEAR COMPACTA. Common in grassy areas from January onwards.

SIGMIA FILAMENTA. Similar to the preceding species.

TOXIDIUM PERON. Fairly common in January and February. Wide-spread.

TOXIDIUM PARVULA. Not common. Grassy areas in Feb.

TOXIDIUM DOUBLEDAYI. Fairly common from November to March. Frequents wild raspberry flowers but feeds on grass.

TOXIDIUM ANDERSONI. Rare, only a few specimens taken. Likes forest areas with food plant, "Wire Grass".

HESPERILLA IDOLAEA IDOLEA. Larvae feed on Gahnia, probably radula. Away from the sea.

HESPERILLA DONNYSA PITIOS. Not rare after Christmas, feeds on G. radula. Both at coast and up inlet.

MESOPATHEA LUSASI A. G. SWIFT. Very rare. A few specimens flying around Gahnia melanocarpa, presumed to be the food plant, in January and February.

MESOPATHEA PIGM. Fairly common from January to March in damp gullies where its food plant Gahnia clarkei grows. Both near the coast and up the inlet.

MESODUMA MILAZZII MILAZZI. Feeds on Patersonia sp. in very moist or swampy areas, either near the coast or inland. From December to February.

MIRACHOGAG PAPYRIL PAPYRI. Very common on grasses from November onwards.

SUNIANA LASCVILLA LASCVIVEL. Generally only found in or near Hyparrhenia grass swards. Not common.

Family: PLECIDIIDAE.

DELLAS IMPRAECE. Found throughout the season. Feeds on Mistletoe.

APPRIA PAULINA EGA. Rare. A few specimens taken at coast in forest in January.

Family: NYMPHALIDAE.

GYRODORUM ACANTHIA OCREL. Not common.

GYRODORUM KIUGGI KIUGGI Common.

HETERONYMPHA MERIFICA Rare and Local.

HETERONYMPHA PARADELPHIA PARADELPHIA Rare. Jan & Feb.

TISIPHOE ADEONA ALBIFASCIATA Common.

FRECCIA VILLIADA CALYBE Common.

VANESSA KIRSHNAI Common.

VANESSA ITREA Common.

Family: LYCAENIDAE.

JUJIMENUS EVAGORAS EVAGORIS. Common. All stages on Acacia. Mainly after Christmas.

PITALUCIA AURIFER. Common in association with food plant Bursaria.

NEOLUCIA MATTHEVI. Rare, in November, in association with food plant Monotoca elliptica. Only near coast.

ZIMMA OTIS LAPPADUS. Common.

CANDIDIAZIS MELCHIORIUS MELCHIORIUS. Common.

C. MEDAILLA KATHOSPILOS. Sometimes common.

CANDIDIAZIS AGILETUS. Common but local.

WILSON'S PROTOPOXY.

Family: HESPERIIDAE.

TRAPEZITAS STIMONIUS SCIM. Mt. Oberon February.

DISPLIR COMPACTA.

" " "

MESODINA ILIJAZIA HAJIZLI.

" " "

SIGITAL FILAMENTA.

" " "

HESPERIA PICTA.

Lily-Pilly Gully, Feb.

H. P. PICTA DONHYSA PATMOS.

" " " "

Family: NYMPHALIDAE.

TISiphone ANTONIA ALBIFASCIA

Lily-Pilly gully &
Sealers Cove, Feb.

KINGJAMES.

Family: HESPERIIDAE.

ORENSTEINUS PERORNATUS.

Breeding on Gania
sieberiana in Nov.

SERVICE TO MEMBERS.

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The Entomological Society of Victoria

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur, and student entomologists, all of whom receive the Society's journal, the "Victorian Entomologist". At intervals, mainly during the warmer months, excursions are arranged to areas of topical interest.

Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Objectives

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record, and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings are held at Clunies-Ross House, National Science Centre, 191 Royal Parade, Parkville, V., at 8 p.m. sharp on the second last Friday of even months, the Annual General Meeting being held in June. Visitors are always welcome to attend.

Annual Subscriptions for 1975

Ordinary Member	4.00 (Aust.)	6.50 (U.S.)
Student Members under 18	2.00 "	3.25 "
Associate Member	1.00 "	++++++

No separate Joining Fee is payable. Associate Members, resident at the same address as, and being immediate relatives of an Ordinary Member, do not receive a separate copy of the Society's publications, but in all other respects rank as Ordinary Members.

Notwithstanding the rates shown herein, rising costs may at some stage necessitate an increase in Subscriptions without separate notice other than notification at Meetings.

The statements and opinions herein are the responsibility of the respective authors, and do not necessarily reflect the policy of the Society.

August, 1975.

The Victorian Entomologist

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Mr F. Hallgarten, Mr R. Manskie, Dr T.R. New and Mr O. Rogge.

Diary of Coming Events

Friday, August 22 1975. General Meeting, Clunies-Ross House, 191 Royal Pde., Parkville. Topic: Demonstration by Kodak.
Please Note: The date for this meeting was shown incorrectly in the last issue. The above date is correct.

Friday, October 24 1975. General Meeting, Clunies-Ross House.
Topic to be announced.

December 12, 1975. Members' Night, Clunies-Ross House.
Please note that this meeting departs from our normal practise of holding meetings on the second-last Friday of the month.

August, 1975.

The Victorian Entomologist

Reports and Notices

Minutes of the Annual General Meeting held at Clunies-Ross House, 191 Royal Pde., Parkville, on 20th. June, 1975.

The President, Mr D.F. Crosby chaired the meeting which was attended by 32 members and friends . Two visitors, Mr P. Burja and Mr R. Pound, were present.

Apologies were received from Mr D.E.A. Morton and Mrs J. Burns. The President then vacated the chair for the election of office-bearers under the chairmanship of Mr J.C. Le Souëf. The following committee was elected:

President:	Mr D.F. Crosby
Vice-presidents:	Mr J.C. Le Souëf Mr W.N.B. Quick
Hon. Secretary	Mr J. Hallgarten
Hon. Treasurer	Mr R. Condron
Editor	Mr J. Caffin
Councillors:	Messrs. A. Atkins, R. Manskie, G. Burns, Mrs J. Burns, Dr T.R. New, Messrs. P. Carwardine, O. Rogge and F. Hallgarten.

Correspondence as tabled was received, and the appointment of the President as representative councillor to the Australian Entomological Society was confirmed. Three interesting films, produced by CSIRO were then screened.

At the resumption of the meeting, the Treasurer made his usual report, and the President reminded members of the forthcoming visit to La Trobe University, and of the members display night. Mention was also made of the progress of the grid-mapping project, and the intention to call this data collection and recording scheme the 'Entreecs' scheme (Entomological Records).

The exhibits at the meeting included a substantial representation of pupal shells of Queensland Hesperiidae by Mr A. Atkins, a 'Tailed Emperor' butterfly captured late in April at Box Hill North, by Mr R. Condron, cocoons of Gum Emperor moths from Wagga Wagga, NSW., by Andrew Kinsella, new and undescribed Odonata from the Northern Territory by Mr J.F. Hutchinson, aberrations and variants of the Common Brown, Heteronympha merope, by Mr D.F. Crosby, and a bulldog ant being maintained on honeyed water, by Mr P. Carwardine.

The President reported on the Council meeting of July 18, and indicated that consideration had been given to printing preliminary quantities of Single Species Cards and Field Cards for the Entreecs project, and it was hoped that a financial grant of some kind might be obtained in due course. The question of Society membership of the Australian Conservation Foundation was discussed, and notification given that further copies of 'The Alps at the Crossroads' would be available shortly.

Date for the August General Meeting.

Please note that the August General Meeting will be held at Clunies-Ross House, 191 Royal Pde., Parkville, at 8 p.m. on Friday, August 22, and not on August 27th as was inadvertently listed in a previous issue.

August, 1975.

Report on the Excursion to LaTrobe University.

More than 40 members and friends had a most enjoyable and instructive visit to the Zoology Department of the University. During the afternoon, Professor Thornton and those of his colleagues involved in entomological research outlined the nature and progress of their individual projects, and showed us around the very impressive facilities.

Professor Thornton explained his work on the biogeography of insects in the western Pacific, with particular reference to the island faunas of Psocoptera.

Dr A.T. Marshall described his studies on the physiology and ultra-structure of the insect cuticle, giving a fascinating display of his techniques with the scanning and transmission electron microscopes.

Research into the population ecology and dispersal of the Light Brown Apple Moth was described by Dr W. Danthanarayana, and graphic displays showing the various factors affecting this species were explained.

The ecology of the Neuroptera and of various groups of insects living on wattles was described by Dr T.R. New, who showed many examples of his study in this field, and his work on the Australian Nemoptera and Myrmaridae.

Dr T. Beattie described his experiments on the antennal circulatory systems, and the metamorphosis of insect fat-bodies, and Dr W. Humphreys explained his work on energetics and the studies of arthropod thermoregulation, particularly in relation to various cockroaches.

In addition, several of the graduate students were present, and were most helpful in describing their current projects.

Our sincere thanks are due to Professor I. Thornton and members of the Department of Zoology who so willingly and enthusiastically spent their Sunday afternoon entertaining us.

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The Junior Members' Display Evening.

Staged in No. 1 auditorium at Clunies-Ross House on July 18th., this display was arranged to stimulate the interest of the younger members, and kindle some basic concept of systematic entomology. Exhibits by junior members were backed up by those of a number of senior members, a total of thirteen exhibitors taking part. It was unfortunate that confusion regarding power restrictions in force at the time was probably responsible for a reduction in the numbers exhibiting.

The two categories available for exhibits, a 'Single-Order Collection from within Victoria' and a 'Broad-spectrum Collection from a Single Garden' were each divided into two sections catering for those members under 14 years old and those 14-18.

The junior members exhibiting were:

Vivian Barrett -- A Broad-spectrum Collection from a Single Garden.
 Ashley Caffin -- A Broad-Spectrum Collection from a Single Garden.
 Andrew Kinsella -- A Single-Order Collection (Lepidoptera) from Victoria.
 Stephen Condron -- A Single-Order Collection (Lepidoptera) from Victoria.
 Cases for these displays were kindly loaned by the National Museum of Victoria.

Displays by the senior members, not restricted to the above classes, included a diversity of subjects:

Lepidoptera: Predominantly Hesperiidae, with early stages - A.F. Atkins.
 Coleoptera: A comprehensive display of Paropsis beetles - P. Kelly.
 Lepidoptera: A miscellany of foreign butterflies and Saturnidae.
 Mimicry: Insect mimicry amongst a variety of Orders - Dr T.R. New.
 Lepidoptera: Origin of the Australian butterfly fauna - D.F. Crosby
 Literature: A display of books available to younger entomologists was provided by two members, F. Hallgarten and P. Carwardine.
 Hemiptera, Coleoptera and Hymenoptera: A combined display provided by the Australian Independent Photographic & Ecological Research Group.
 Coleoptera: An extensive collection of Cerambycidae -- G. Burns. (Mr Burns is renowned for his exemplary setting, labelling and general presentation of these awkward insects.)

At the conclusion of the evening, the exhibits by the juniors were assessed on the basis of scope, labelling, identification, setting and compliance with the available categories, and token awards made to Andrew Caffin, Andrew Kinsella and Vivian Barrett. For the record, Stephen Condron, who missed out on an award, was the only exhibitor (junior) to identify his specimens, but dropped points through lack of coverage of the chosen field.

The Bulldog Ant Exhibit.

At the time of the Junior Members' Display, the ant exhibited by Peter Carwardine has been kept in good condition on a honeyed water diet for a period of 54 days.

Notes on Hill-topping Butterflies of Queensland.

By Andrew Atkins *

One of the most interesting but least-known aspects of butterfly behavior is 'hill-topping'. Entomologists are well aware of the habit of many insects to congregate on the summit of ridges, hills and mountains, but little research has been undertaken to establish the reason for this phenomenon. Observations however have revealed several well-defined patterns in the hill-topping behaviour among butterflies (Common & Waterhouse, 1972). Such butterflies, when collected, are usually in good condition, and are almost always male. Those females which do reach the summit are often virgin. The hill-top congregations are not merely transitory individuals denied further progress by natural barriers.

Hill-topping tendencies are well marked in the Australian representatives of the butterfly families Hesperiidae and Lycaenidae. Some Papilionidae, Pieridae and Nymphalidae also participate. Australian species exhibit recognisable behavioral patterns, such as distinctive choice of resting sites and flight paths, and selective summit arrival times. It is difficult to establish any one common factor among Australian hill-topping butterflies which might provide a reason for this behaviour. Common & Waterhouse suggest that the advantage of hill-topping is to provide a competitive concentration of males in an otherwise sparsely distributed species. However, the number of males of any one species on a hilltop is normally small. In Hesperiidae, territories are established on the summit and rigorously defended against intruders, particularly of the same species. Thus the number of individuals remains constant when the available resting sites become occupied. Unaccountably, some species of skipper belonging to genera noted for their hill-topping habits, do not seek summits. Butterflies least likely to hill-top include common and widely-distributed species, migrants, and species which frequent marshes and swamps, or have a tendency to remain close to their foodplants. Amongst the latter, surprising exceptions can be found in some species of Jalmenus, and the satyrid Tisiphone abeona which are active hill-toppers.

In central Queensland, conditions are generally favourable for the observation of butterfly hill-topping. Here, relatively low areas of land are interspersed with small, but complex hills and mountain ranges of various geological formations, clothed with mixed and varied vegetation types. The butterflies in central Queensland broadly represent an overlapping of the Torresian and Bassian fauna provinces (Common & Waterhouse 1972, and Monteith 1974) and thus are both varied and numerous, at least in the warmer months. The list which follows is of Queensland butterflies with definite hill-topping tendencies, and observed by the author between 1970 and 1974. The observations were made mainly on inland hilltops in the central Queensland area from the Carnarvon Ranges and Gayndah in the south, Expedition Range and the Peak Downs Range in the west, and Marlborough to the north, and along the east coast encompassed by these areas. Included also are a few species from southern Queensland in the vicinity of Nambour and Stanthorpe, and from northern

* Flat 1. 29 Greville Street, Prahran, V. 3181.

Queensland adjacent to Townsville and Charters Towers.

The majority of the hilltops in these locations have an annual rainfall of between 750mm and 1000mm, and are surrounded by ironbark, bloodwood and box-peppermint Eucalyptus forest complexes. Some of these hills also carry remnant rainforest or bottle-tree scrub and brigalow. The records include a few species associated with coastal wetlands. During the four years of observations, central Queensland experienced at first a severe drought, followed later by the return of heavy rains to register the near-record 'big wet' of the 1973-1974 season. Surprisingly, no great fluctuations in butterfly populations occurred, hill-top collecting remained productive and was only affected by day to day weather conditions.

Family and Species	Hours of Summit Occupancy	Resting, Flight sites.
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HESPERIIDAE

	E.S.T.	
<u>Netrocoryne repanda</u> repanda C. & R. Felder	0900-1000	C,D.
<u>Trapezites macqueeni</u> Kerr & Sands. (N. Qld.)	1500-1700	C
<u>Trapezites eliena</u> (Hewitson)	Occasionally 1200-	C
<u>Trapezites iacchus</u> (Fabr.)	1500-1700	C
<u>Trapezites phigalooides</u> Waterhouse (S. Qld.)	1500-1700	C
<u>Trapezites petalia</u> (Hewitson)	1400-1700	B,C.
<u>Toxidia peron</u> (Latreille)	1000-1600	C
<u>Toxidia crypsigramma</u> (Meyrick & Lower)	1000-1700	A,B,C.
<u>Hesperilla furva</u> Sands & Kerr	1000-1700	A,B,C.
<u>Hesperilla malindeva</u> Lower	1000-1700	C,D.
<u>Neohesperilla xanthomera</u> (Meyrick & Lower)	1100-1600	A,B,C,D,E.
* <u>Proeidosa polysema</u> (Lower)	1100-1600	C
* <u>Mesodina halyzia</u> halyzia (Hewitson)	1100-1600	C

PAPILIONIDAE

<u>Protographium leosthenes</u> leosthenes (Doubleday)	1100-1600	C,D.
<u>Graphium macleayanum</u> macleayanum (Leach)	1100-1600	E
<u>Graphium sarpedon</u> choredon (C. & R. Felder)	1000-1700	E
Papilio anactus W.S.Macleay	1000-1700	D
* Papilio demoleus sthenelus W.S. Macleay	1100-1600	D
<u>Cressida cressida</u> cressida (Fabricius)	1100-1600	D,E.

PIERIDAE

<u>Elodina parthia</u> (Hewitson)	1100-1600	D
<u>Elodina angulipennis</u> (H.P. Lucas)	1100-1600	D
<u>Delias argenthona</u> argenthona (Fabricius)	1000-1700	F
<u>Delias aganippe</u> (Donowan)	1000-1700	F
<u>Delias nigrina</u> (Fabricius)	1000-1700	F
<u>Delias nysa</u> nysa (Fabricius)	1100-1600	F

NYMPHALIDAE

<u>Polyura pyrrhus</u> sempronius (Fabricius)	1000-1600	E
<u>Doleschallia bisaltide</u> australis C.&R. Felder	1100-1300	E
<u>Hypolimnas misippus</u> (Linnaeus)	1000-1600	A,B,C.
<u>Vanessa itea</u> (Fabricius)	1100-1600	B
<u>Acraea andromacha</u> andromacha (Fabricius)	1000-1700	D

Family and Species

Hours of Summit Occupancy	Resting, Flight sites.
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LYCAENIDAE

<u>Rapala varuna simsoni</u> (Miskin)	1100-1600	D
<u>Deudorix epijarbas diovis</u> Hewitson	1100-1500	D
<u>Jalmenus ictinus</u> Hewitson	1300-1500	E
<u>Jalmenus pseudictinus</u> Kerr & Macqueen	1200	D
<u>Jalmenus daemeli</u> Semper	1100-1700	E
<u>Ogyris genoveva duaringa</u> Bethune-Baker	1100-1800	F
<u>Ogyris zosine typhon</u> Waterhouse & Lyell	1300-1800	F
<u>Ogyris barnardi</u> Miskin	1300-1700	F
<u>Ogyris iphis iphis</u> Waterhouse & Lyell (N. Qld.)	1100-1700	E,F.
<u>Ogyris oroetes oreotes</u> Hewitson	1100-1600	F
<u>Hypochrysops delicia delicia</u> Hewitson (S. Qld.)	1300-1600	D,E.
<u>Hypochrysops delicia duaringae</u> (Waterhouse)	1100-1800	D,E.
<u>Hypochrysops ignita chrysonotus</u> Grose-Smith	1300-1700	B,D.
<u>Hypochrysops apelles apelles</u> (Fabricius) (N. Qld.)	1300	D
<u>Pseudodipsas cuprea</u> Sands	0900-1300	D
<u>Pseudodipsas myrmecophila</u> Waterhouse & Lyell	0900-1400	D,E.
<u>Prosotas dubiosa dubiosa</u> (Semper)	1000-1400	D
<u>Nacaduba berenice berenice</u> (Herrich-Schäffer)	1000-1400	D
<u>Theclinesthes scintillata</u> (T.P. Lucas)	1300	D
<u>Theclinesthes miskini</u> (T.P. Lucas)	1000-1600	D
<u>Theclinesthes onycha onycha</u> (Hewitson)	1000-1600	D
<u>Neolucia agricola agricola</u> (Westwood & Hewitson)	1000-1600	C
<u>Candalides margarita margarita</u> (Semper)	1100-1600	D,E.
<u>Candalides absimilis</u> (Felder)	1100-1600	D,E.
<u>Candalides cyprotus pallescens</u> (Tite)	1100-1600	C,D.
<u>Candalides hyacinthinus eugenia</u> Waterhouse & Lyell	0900-1700	C,D.

* These species are not strong hill-toppers and are generally found on lower hills or ridges unless their foodplant grows near the summit.

** This species though common on hill-tops, makes frequent, but short visits to the summit.

The specific names and authors are followed by times of summit occupancy and an alphabetical key indicating characteristic resting and flight sites (See diagram.)

This list includes some interesting examples of hill-topping behaviour, but it must be recognised that from time to time modifications occur in the habits of some species at different locations. The influences producing these modifications appear to be topographical. The selection of flight paths and resting sites varies according to the summit profile, i.e. the extent of clearings, the presence of stones, boulders, bushes and tall trees, and the steepness of the slopes. Wind strength and direction, and the position of the sun also influence the choice of resting sites.

A typical productive hill-top in central Queensland might be a relatively small conical hill, 100m or more in elevation, with boulders and small trees situated on a summit of a few meters width. Even in these latitudes the greatest number of butterfly species is found in the warmer months, particularly in mid-spring and early autumn.

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Endemic genera dominate hill-topping Hesperiidae in central Queensland. They generally choose small sheltered clearings carrying low-level resting sites such as boulders, twigs and bushes. Being sun-lovers, they appear on the summits between 1000 hrs. and 1100 hrs. E.S.T., and remain throughout the day. Towards mid-day however there is a noticeable reduction in the summit-seeking skippers. The genus Trapezites is exceptional in preferring to reach the hill-tops after 1500 hrs. Netrocoryne repanda is unusual in its preference for early-morning hill-topping, possibly reflecting its close relationship to the crepuscular flying species of Pyrginae. Species of the genus Hesperilla are highly selective in their choice of resting sites, whereas the choice of Neohesperilla xanthomera is greatly divergent.

Papilionidae have several hill-topping representatives, mainly from the genus Graphium and its allies which remain on the wing for long periods without settling. The two listed species of Papilio are common inland species, and differ greatly in their summit-patrolling activities. Strong hill-topping tendencies are found in the archaic genera Cressida and Protographium.

In Pieridae the genus Elodina contains occasional hill-toppers, but this activity is very well marked in Delias species, which glide high above the summit trees.

Hill-topping species of Nymphalidae are not common in central Queensland, although Polyura pyrrhus sempronius, Hypolimnas misippus and Acraea andromacha andromacha are characteristic of summit fauna.

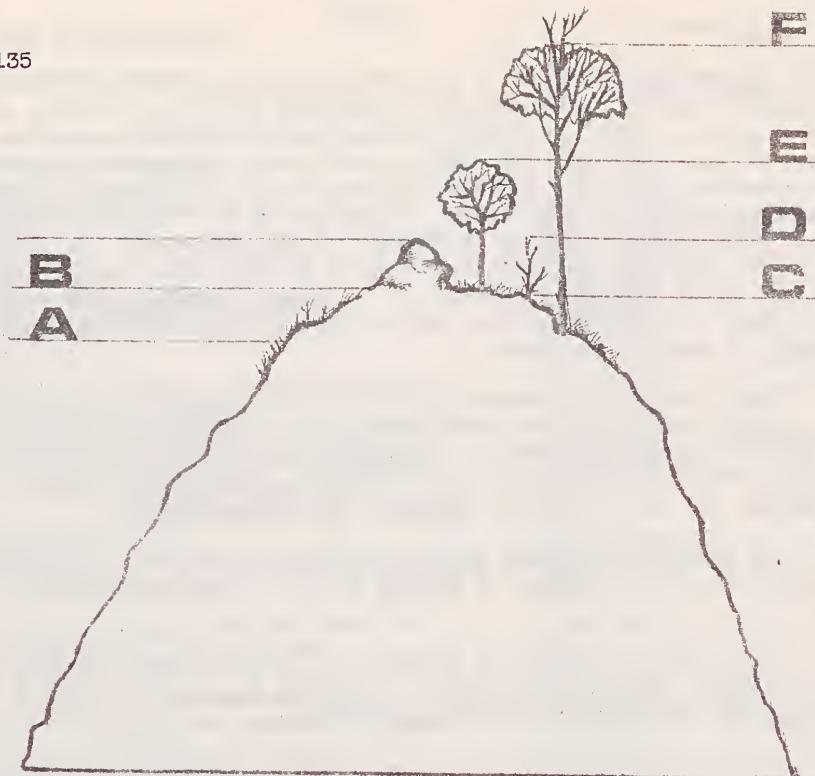
The family Lycaenidae has several hill-topping genera including Ogyris, the species of which make frequent summit visits during the day, but become more permanently established after 1500 hrs., when they rest on the uppermost leafless branches of tall trees. Species of Hypochrysops are also strong hill-toppers, but seldom reach the summit before 1500 hrs. They are highly selective in their choice of resting sites. Hypochrysops delicia duaringae is unusual in visiting the summit between 1600 and 1730 hrs. on hot humid days, though it can be seen in some numbers throughout the day reaching the summit in short, highly co-ordinated visits during warm, overcast weather. Species of Pseudodipsas are notable hill-toppers, and again are highly selective in their choice of resting sites. They generally reach the summits between 0900 and 1200 hrs., and are seldom seen after 1300 hrs.

There are indications of many other central Queensland butterfly species capable of hill-topping. In species normally found in swamps, ravines and beach-dune habitats, the males nevertheless seek nearby hillocks and clearings, indicating perhaps that hill-topping has evolved simply as an extreme territory-orientated habit. There are also indications to suggest that thresholds exist which prevent species hill-topping at elevations too far above the limit of foodplant distribution, and that flight strength of the butterfly species is a limiting factor.

References:

Common, I.F.B. and Waterhouse, D.F., 1972. 'Butterflies of Australia'. (Angus & Robertson, Sydney. 4to. Pp. i-xii, 1-498, illustr.)
 Monteith, G.B., 1974. "An Exercise in the Distribution of Eastern Australian Butterflies". Ent. Soc. of Qld., News Bulletin, Vol. 2, 4.

I am grateful to Mr W.N.B. Quick for his comments on these notes.



Key to the Resting Sites and Flight Elevations of Queensland Hill-topping Butterflies.

- A - Ground level at or near summit.
- B - Raised rock, boulder or ledge on summit.
- C - Low twigs, grasses or bushes on summit.
- D - Bushes or low trees between 1m and 3m in height.
- E - Trees more than 3m in height.
- F - Above leaf canopy of trees over 3m in height on summit.

(Illustration by the Author)

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Wasp Parasites of Mantid Oothecae.By T. R. New [✉]

The oothecae (egg cases) of several species of praying mantids are conspicuous objects on many trees and shrubs around Melbourne during the winter months. Mantids often appear to be effective predators against a wide variety of insect pests, but their numbers are often considerably reduced by heavy levels of parasitism of their eggs. In Victoria the parasites of mantid eggs are predominantly species of Podagrion and related genera (Chalcidoidea: Torymidae), and up to about forty wasps have been reared from a single ootheca. Some oothecae have also yielded specimens of Eupelmidae -- these may prove to be hyperparasitic on the Torymidae, but some species are primary parasites on insect eggs.

Frequently both wasps and young mantids emerge from the same ootheca, and it seems that the wasps may undergo several generations each year. In some (non-Australian) species of Podagrion the females cling to the female mantids to ensure access to the eggs as soon as they are laid (Clausen 1940: 202), but I have not yet observed this behaviour in Australian species. Indeed, the very long ovipositors (up to about twice the body length) of the wasps appear very suitable for penetrating the host's oothecae.

About half the 20 or so oothecae collected casually from Acacia trees near Melbourne during the last few months have yielded parasites, some only parasites. In all there has been a 'dual emergence', one lot of parasites having emerged up to two weeks before another group of similar size. Work on these wasps is continuing, and I should be very grateful for any mantid oothecae members may come across during their collecting activities, or the opportunity to examine parasites bred from them.

Reference: Clausen, C.P. 1940. Entomophagous Insects, McGraw Hill.

[✉] Dr T.R. New, Zoology Dept., La Trobe University, Bundoora, Vic. 3083.

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The 1974-1975 Season.

After a very late start to the season, perhaps with particular reference to the Lepidoptera, insect abundance, with few exceptions, did not reach what might be called normal levels. Pieris rapae, the Cabbage White butterfly, was noticeably scarce until well into the summer. Two notable exceptions were Papilio anactus and Polyura pyrrhus sempronius, particularly the former, which often appeared as a dominant butterfly species in gardens, and has gained a foothold in Melbourne only over the last few years. Polyura has not been observed yet to over-winter in the

juvenile stages near Melbourne, but the relative frequency of sightings would seem to indicate that it is doing so much further south than was the case up until recent years. (See Vic. Ent. 4, Vol. 5, Pp. 66-71).

The late start to the season was paralleled by an equally late close, with May 21st. the hottest (27°C) May day recorded for 100 years. Indicative of the lateness of the season are these few records forwarded by Peter Carwardine, of 2a Victoria Rd., Malvern, Vic.:

Papilio anactus Malvern: 21:05:1975. Very fresh.

Heteronympha merope mèrope. Exford. 04:05:1975. Very plentiful.

Vanessa itea Werribee Gorge: 04:05:1975. Two specimens.

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Distribution Data Recording Programme.

(Entrecs)

The Entomological Society of Victoria has now embarked on its programme involving the collection and recording of data relating to the distribution of insects within Victoria. This is a long-term project requiring the assistance and co-operation of numerous volunteer workers. As the project advances, the production of a tentative Victorian insect census -- for many years past one of the basic aims of the Society -- will become a reality.

To this end, the Society invites the co-operation of all interested persons, with the one proviso that all assisting workers must fully appreciate the need for absolute accuracy and reliability of detail.

Ultimately, the assembled data will enable Victorian entomologists to carry out all manner of investigations at present impracticable or impossible. These may range from the plotting of annual migration corridors, and distribution in relation to that of known hosts, to assessment of the changes wrought by man's intrusion and alteration of the environment. A more immediate possibility will be the production of species-distribution maps.

The first stages of the programme, during which it is anticipated some minor problems may require elimination, will be devoted to the extraction of data from private collections as they now exist. For this purpose the Society has produced what is called a Single Species Card. This will facilitate the entry of data from what may be substantial series of many species. As each section of a collection is examined, markers indicating that data has been recorded will be attached to cases, drawers or boxes.

Obviously, additional specimens will from time to time be incorporated in the collection. In order that data from these is recorded in maximum detail with a minimum of inconvenience, a 'Field Card' is available. As the name implies, this card is primarily intended for use in the field, and a small stock

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of cards should be carried on each cutting. The data to be entered on these is more comprehensive than that required on Single Species Cards. The use of these two types of card will minimise the amount of handling the final manual-entry card, the 'Individual Record Card' (I.R.C.) receives.

When field conditions do not permit completion of cards, habitat data should be carefully noted, perhaps on an expendable card, and the other details completed at the earliest opportunity. It is important that details of new specimens be recorded before they are added to a collection from which data has already been extracted. The use of a data 'quarantine' storebox is suggested.

The grid employed in plotting localities is based on 1:250,000 Series R 502 maps, in a system devised by Dr D.M. Churchill for recording the distribution of Victorian plant species. Entomological data will accordingly be directly compatible with Herbarium records -- an essential criterion of the entire scheme.

Each insect Order, and every family within the Orders, has been assigned a Code number. Classification of the Families is based on that adopted by CSIRO in 'Insects of Australia', and up-dated subsequently by the 1974 Supplement. Provision has been made at every stage for the inevitable expansion and changes which will take place. In order that this up-to-date classification is uniformly employed, it is quite essential that the publication should be consulted, or the advise of a specialist sought with regard to the classification and identification of the lesser-known groups of insects. It is similarly essential that this classification be followed regardless of one's own personal views.

There appear to be some misconceptions regarding the recording of localities on a grid system. The scheme does not in any way change, or seek to change, an entomologist's chosen way of labelling his specimens. If desired, a lat./long. reference, or grid reference, may be included on labels. Each grid reference has direct and precise equivalents expressable by lat./long. co-ordinates, a table of which (at a 10' resolution) is presented in the Entrecs manual. Full instructions on collection of data and entry onto cards are provided in this manual, together with other relevant information.

Preliminary enquiries may be addressed to: W.N.B. Quick,
20 Alimar Rd., Glen Waverley, V. 3150. Enquiries are not restricted to
members, and in view of the nature of the grid used, the system may be of
interest to kindred societies in other states.

A Collector in Peru.

The following is an extract from a letter sent by a collector in Peru, South America, and forwarded by Mr David Holmes, of Red Hill, Victoria. Its charm, for reasons which will become evident, exempts it from any editorial attention

"I write to let you know how beauty is in the forest here in Pucallpa. I leave on 7 o'clock morning to go 40 kilometer far from Pucallpa, with cart. From there I begin to walk on foot 4--5 km throughout the dark pass within the forest. I bear bite for the butterfly, to set in clear places, for the Agrias Prepona and another. But suddenly begin the tempest to fall, and I am 7km off of the free road. I begin to scrape to the road, but I fall oft because the soil is very heavy and wet from the rain. The wind blow the trees down here and there, and between the time I am very drench from the strong rain. And it is recently 10 o'clock, and I must wait to the cart that should come on one o'clock to take me home. What have I collect in the meantime 5 or 6 common species. Another times when the weather is good and very hot, the butterflies flying only till 12 o'clock, later they go to rest in the trees till next day, they begin to flyfly on nine o'clock when the day is dry and hot till twelve o'clock. And when I have chance I catch 2 specimens at day, but not all are of first quality, there are ever any damaged. And sometime fall poisons snakes of the trees, or suddenly is in the pass, also the ants fall in great quantity of the branches from the shrubs or of the trees. They pic but very strong beneath the shirt and in neck that is very molest, when the body is wet from sweat, also the ambient is with of mosquitoes, that suck the blood and sometime let the larve of another Diptera that develop beneath the man skin and grow one centimeter in length, and cause swelling, but it is easy to kill with nicotin of tobacco. And when I pursue any callitaerra throughout the ground grows I fall of in holes that are in the ground and it is not to see because it is cover withered or decaying leaves, and of these holes come out many large ants of one inch or small snakes out. This reason must to be alert. To collect rare and more I must travel to another places. You will excuse me for my english, but this little english I have study alone without professor - only from books, and I do not know if you were understand. I am not young, being 74 years old. I was sick several years ago with reumatismus, but am now healthy and sound.

One time I was walking throuth the forest, and suddenly with the net touch a wasps nests and then all the wasps come to argue and pic in all parts face, eyes, ear, nose and mouth. Where the wasp pic swell, and the net stay involved with entangle with hook, and sometime break the net there when I take out. And the hot 40 degrees, and I return very thirsty. After I take the lunch at house I put all the specimens in paper with date of capture and place, and put to dry.

Next day I go to another place, and sometime I have chance to catch two Agrias Sardanopalus, and some Menelaus or Patroclus, but the sun is very strong and I receive headache, but I catch some Callithea and Catagramma also Papilio.

One time in the forest I stumble with twelve wild indians. It seem they was drunk, and it was far from the civilitation. His eyes was red interior and the face was striped also with red colour. All have arrow and bow, they going to hunt in the hills of Pachitea river, it fell out in the year 1922, as all the Pachitea was wild then.

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I going a time to collect butterflies from my bungalow out 7 kilometer far from that was in the bound between Brasil and Peru, out from Pucallpa, within the forest, and suddenly was a big leopard 3 meter off, a male, and very very a beautiful piece. He look to and I look, 10 minute we stay immovable, and then I take my cutlass and he make a leap 3 meter off, and set on foot of a big tree. But he always look to me and I also. These days I do not have had carbine or shotguns. The leopard stay there and I return to my bungalow. It was 4 o'clock evening.

In that time I was with Dr Tessman, we would to found a scientific institute of Natural Histry of Peru, but we failed owing money. We have worked a year there, but in that time was wild and we must search another work. Then I received a letter from Dr Bassler chief of the Standard Oil Coy. He has a natural history museum, but small. I was the guide of this museum 5 year until was undone owing a revolution. Later I have work Botany for Smithsonian Institute of Washington, and that Taxidermy for Field Museum of Chicago, and the Paris and London Museums, and for many other institutions. "

- J. Shunke

Availability of Transistorised Flourescent Lamps.

Members may be interested to learn that low-wattage flourescent lamps are now available at very much reduced prices. These lamps operate directly from a 12-volt car battery, and providing the battery is fully charged and in good condition, the lamps may be left on most of the night.

While the white-light tube supplied will be found extremely useful for setting up camp, and is usefully-efficient in its attraction of insects of various orders, clear Vycor-sheathed mercury-vapour steriliser tubes are available, and are interchangeable. The fluorescent lamps are available from firms specialising in camping goods, and the M-V tubes from a number of electrical stores.

The M-V tubes should be operated without a plastic screen or shield for maximum efficiency, but care must be exercised with their placement. They do produce sufficient ultra-violet radiation to affect eyes.

Availability of Entrecs Cards.

Initial stocks of both Field Cards and Single Species Cards have now been produced, and will be available at the next meeting to members registering as collectors. There is no registration fee.

In order to run a trial application of the system, all recorders are requested to take data of all specimens of

Oreixenica lathoniella

(over

August, 1975.

The Victorian Entomologist

in their collections. The data should be entered on Single Species Cards, and returned to me as soon as possible.

This widespread and abundant little butterfly has a patchy distribution, and being represented in most collections by a substantial series, should provide excellent material for initial testing of data processing.

As few sets of maps are prepared, it may prove necessary to hold a special meeting for the determination of grid references. If the demand exists, this will be arranged.

W.N.B Quick.

Vol. 5: No. 5 October 1975.

THE
VICTORIAN ENTOMOLOGIST



Journal of
The ENTOMOLOGICAL
SOCIETY of VICTORIA

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Associate Member	1.00	"	++++++	++++++

No separate Joining Fee is payable. Associate Members, resident at the same address as, and being immediate relatives of an Ordinary Member, do not receive a separate copy of the Society's publications, but in all other respects rank as Ordinary Members.

Notwithstanding the rates shown herein, rising costs may at some stage necessitate an increase in Subscriptions without separate notice other than notification at Meetings.

The statements and opinions herein are the responsibility of the respective authors, and do not necessarily reflect the policy of the Society.



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Councillors: Mr. A. Atkins, Mr. G. Burns, Mrs. J. Burns, Mr. P. Carwardine, Mr. F. Hallgarten, Mr. R. Manskie, Dr. T.R. New and Mr. O. Rogge.

Diary of Coming Events

Friday, October 24 1975. General Meeting, Clunies-Ross House.

Topic to be announced.

December 12, 1975. Members' Night, Clunies-Ross House.

Please note that this meeting departs from our normal practise of holding meetings on the second-last Friday of the month.

October, 1975.

The Victorian Entomologist

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The reproduction of taxonomic papers within this Journal shall not constitute formal publication.

Reports and Notices

Minutes of the Ordinary Meeting held at Clunies-Ross House, 191 Royal Parade, Parkville, on Friday 22nd August 1975.

The chair was occupied by the President and 29 members and friends attended. On opening the meeting Mr. Crosby advised that the evening's speaker from Kodak was ill and it had not been possible to obtain a replacement. As a result, Mr. Quick gave a most interesting practical demonstration of a method of removing pins from set specimens of lepidoptera using a transformer which rapidly heated the pins thus burning them out of the insect. He showed how replacement pins could be inserted and held in position with a small drop of "AQUADHERE" glue. Members were most appreciative of this demonstration which Mr. Quick agreed to give at short notice. He answered a number of questions.

The President then showed a selection of colour slides covering a recent visit he had made to the National Parks of East Africa.

Following these, the minutes of the last meeting were confirmed and the correspondence was read and accepted. This included letters to and from the Australian Conservation Foundation, and the Land Conservation Council regarding the Ocean Grove Nature Park.

The Secretary advised that further copies of "Alps at the Crossroads" had been obtained and were available to members at cost.

Reports from the Treasurer and Editor were received and the need for further articles was stressed.

The President congratulated the winners of the display competition and thanked all those that took part in what proved to be a most interesting event.

Mr. Nigel Quick advised on the status of the ENTRECS PROJECT and asked members to assist in the pilot study using the butterfly OREIXENICA LATHONIELLA.

It was decided to endeavour to arrange a winter excursion to Monash University for 1976.

The following displays were provided:

Mr. D. Holmes: Butterflies from Peru.

Mr. P. Cawardine: A moth book and a newspaper article on the elm disease beetle.

Mr. R. Condron: Two attractive display cases of SPHINGID and HEPIALID moths.

Ashley Caffin: Butterflies and Dragonflies from Sunbury.

The President thanked the exhibitors and those attending and closed the meeting.

Committee Meeting held on 17th September 1975.

In discussing the future finances of the Society, the Committee noted the greatly increased cost of posting the Journal and the steep rises in the other costs and it was agreed to recommend to the members at the October General Meeting that subscriptions for 1976 be as follows: -

Ordinary Member	\$5.00	(up \$1.00)
Student Member	\$2.00	(no change)
Junior Member (under 18)	\$2.00	(no change)
Associated Member	\$2.00	(up \$1.00)

The President mentioned that Mrs Caffin was temporarily unable to assist with the typing of stencils for the Journal. Dr. T. New very kindly offered to help.

The review and date for the next excursion was discussed and finalized. See details on page 149 .

Mr. Quick reported on interest exhibited in the ENTRECS PROJECT and confirmed expenditure to date of about \$200 which it is proposed will be re-imbursed as soon as possible, probably in two annual instalments. Further expenditure was temporarily deferred.

NO JOURNAL THIS DAY, NO SLEEP THIS NIGHT

By J. C. Le Souëf

When 16 enthusiasts gathered together in Ras Wilson's dining room in East Malvern on the 5th April, 1927 for the purpose of forming an Entomological Society, one of the first projects was to make a comprehensive list of the insects of Victoria.

This matter has been raised on a number of occasions over the years, but it has remained for Nigel Quick to do something positive about it. The emergence of this Grid Scheme will now give our Society some definite purpose.

Hand in hand with the observing and collecting of insects is the task of making regular notes of what has been seen and collected. Obviously, every specimen must have the three lines of locality found, date and the collector's name, sometimes with other minimal information too, but this is only half the story. With diary notes made on the evening of the day of collecting, all sorts of relevant information can be included. Here, the foodplant, diagram of the locality, type of country, weather, etc. can be recorded. The writing of these notes at the end of the day is sometimes a bit of an effort but the ten minutes or so it takes is very much more than repaid by their use in the future.

Like so many students who have worked with him in Australia and America, I was persuaded by Dr. Norman B. Tindale to make journal notes first in 1958 on a collecting trip through Gippsland to Mount Kosiusko. They were a bit sketchy at first but with practice have been extended over the years. Here are recorded the actual day to day experiences in entomology which will be referred to time and time again. Notes such as these provide an important part of entomological literature referred to as unpublished manuscripts. Much of the information contained in our reference books came originally from the simple notes someone took the trouble to write down at the time.

Not only would this be a great help to collectors themselves but would be invaluable in the continuing work of this new Grid Scheme.

A most important adage for any field entomologist quoted so often by Dr. Tindale is "NO JOURNAL THIS DAY, NO SLEEP THIS NIGHT".

A WINTER VISIT TO INLAND QUEENSLAND

By J. C. Le Souëf

Mainly with the object of checking on the winter insect fauna at Burra Range and Springsure in Queensland, Mary and I spent a month on the road during July 1975.

Taking the Newell Highway on the way north, we again searched for Ogyris zozine, a colony of which we had found last winter near the 23 mile post south of Dubbo. The mistletoe had died and although we spent a little time looking on other trees nearby, as there are hundreds of trees in this area with mistletoe, it might take quite some time to find another colony. We did take another Ogyris olane on the tree with mistletoe overhanging the road some ten miles from Dubbo on the fence line, but a nest of Camponotus ants at the butt of this tree had disappeared since the last trip.

One thing the lepidopterist has the edge over those who follow other disciplines is the thrill of the emergence from pupae taken on collecting trips. As I write this Ogyris oroetes, taken on a gum opposite the motel at Coonabarabran has emerged, the first decent specimen for the collection.

We stopped at Isla Gorge, 110 miles North of Miles, for morning tea but it was a bit cold and there was nothing about. On to Rockhampton where we stayed for two nights with shells to be bought at Yeppoon. Without Andrew Atkins there, it was almost just a drive through town.

At Yeppoon we checked on Andrew's Hypochrysops digglesi spots but there were no larvae to be seen at all. There were the usual butterflies on the wing with the exception of Anthene e. affinus, common enough apparently, but the first we'd taken apart from one at Daly River in the Territory in 1971. The brilliance of the blue was almost startling with one of the two taken, sunning itself on the ground by the road.

At Bowen there was the pleasure of taking that most attractive emerald, Uliocnemis partita, on the toilet ceiling, the popular spot for collecting moths in caravan parks. We had the MV light on at Cardwell but the evening was too cold for any insects to be moving. Usually there are butterflies to be seen along the roadside while travelling but this year there were extremely few. Even in the gardens at Townsville with masses of

flowers, there was not one to be seen.

In the few days we spent at Cairns, again, there were very few about. Even at the Cascades where we had spent so many hours in earlier days on our own or with Archie May we only saw one Papilio ulysses joesa and one Ornithoptera priamus euphorion, the Cairns Birdwing, together with a couple of Delias. Mostly there was nothing in sight at all flying. What a contrast this was from our first visit in 1962 when there were many species taken and seen on the wing. The lovely track through the rain forest is gone, "improved" by the bulldozing of a swathe through the jungle to provide a sealed road and a large turntable at the foot of the walking track to the water supply.

One of the objects of the visit to Cairns was to have a look at Ray Manskie's Hypochrysops narcissus spot on the Cook Highway beyond Hartley's Creek. Here on young mangroves out on the tidal flats, we found larvae in curled leaves like those seen at Cooktown. With no hollow branches and one empty pupa case in a curled leaf, we were satisfied that in these circumstances they will pupate in leaves rather than use hollow branches when they are not available.

From George Brooks, we caught up with the northern entomological news and heard something of the stream of collectors now invading the glamorous habitats of Cape York. During an evening with Vince and Shirley Winkel at the Cairns Botanical Gardens we were treated to a series of magnificent spider pictures by Clyde Coleman.

After Cairns we took the Gillies Highway to Mt. Garnet with lunch at Lake Barrine on the way. It was along this road that we passed through the 40 Mile Scrub, now a National Park. Having heard so much of this extraordinary area from various collectors, it was of great interest to see it for ourselves. Driving along the road through normal open forest country just forty miles from Mt. Garnet we came to this large patch of very thick tangled vegetation apparently made up of the various species of flora found in this district. We stopped under one of the large figs at the roadside which provide suitable parking spots in the wet with such unstable ground here. There were several Appias paulina ega feeding on some flowers but these were the only insects seen.

Out of the scrub and back into the open again we made our way south past the newly mushroomed nickel town of Greenvale. About 70 miles south of The Casis, the halfway petrol stop between Mr. Garnet and Charters Towers we took a side track at the sign denoting the Christmas Creek cattle station. I was anxious to see the destination of a Brahman

bull sent from the Melbourne Zoo when I was a small boy. Because he was convinced of the tick resistance of this breed, my father had sent a bull to Mr. William MacDowall the owner of the station at the time. This small beginning was the foundation of the present Brahman cattle industry. With the two lagoons near the site of the original homestead it was reminiscent of Coomooboolaroo, the home of the Barnard family of naturalists, west of Rockhampton. We hope to make this a centre for future collecting in the district.

After a night in the historic old town of Characters Towers, we left for Pentland where we stayed for the next few days in the caravan park. On the way I hilltopped at two likely looking hills near the road, but it was still too early for anything of interest to be on the wing.

As this was the season when the flowers which had attracted a bus load of (Society for Growing Australian Plants) members from Brisbane to visit the Burra Range in 1973, we had expected that there would be many insects about. However, we were to be disappointed. Apart from many dwarf acacias and a few larger species, the only flowers with honey were odd cassias and some grevilleas. Despite the fact that these latter were dripping with nectar, there were only a few tiny wasps attracted to them with no other insects and a few honeyeaters.

In the list of 17 species of butterflies noted, there was little of interest. We had hoped to find the larvae or pupae of Ogyris iphis several of which Andrew Atkins had taken last September, but the several pupae taken under bark and rocks appear to be Cgyris hewitsoni meridionalis from the one female so far emerged.

Two plants of the local species of Lomandra were brought back together with several Trapezites larvae. These appear to be T. eliena, one of which has already pupated. The Hesperilla malindeva larvae noted on the last visit were not seen this time.

Three more Ogyris larvae were taken on the road to Clermont. They have since pupated and their emergence is awaited with some interest.

At Springsure we spent a very pleasant week, warm and sunny each day except for the last day, the one we had set aside for hilltopping, when a gale blew up and clouds appeared as so often happens on such occasions.

On the saddle of the range halfway to the lookout, on the tourist track where we had seen so many Hesperilla furva last spring, we spent some time checking on the Scleria for larvae. There were many to be seen and all appeared to be the same species. Two of the food plants brought home have survived with three larvae feeding despite the change in temperature.

With mistletoe about, much time was spent searching for Ogyris. On a large gum by a causeway not far from the town we found a nest of Campanotis. While I worked on one side of the tree, Mary looked on the other. There was some excitement when she spotted a lovely deep blue female drying off on the trunk a couple of feet from the ground. As this was the first time we had seen an Ogyris in this condition in a wild state, I forgot to take a photograph. This is a rare sight indeed for the casual visitor. We took both larvae and pupae from this tree leaving some in the debris at the base. All the larvae have since pupated. It will be interesting to see if there is any variation in colour of the specimens from this colony.

Apart from this colony of Ogyris zoxine there was no success on the many other trees inspected both on the flats and in the gorges on the range. Similarly there was no sign of the eggs, larvae or pupae of the Theclinestes on the Macrozamia found there for Hiro Sibatani who is working on this difficult group. He was particularly keen to have the life history of the butterfly found here as it appears that the race is restricted to this immediate area.

With the taking of Hypocysta adiante, I added one more species to Max Moulds' list of the butterflies of the district.

Hazards on these country trips seldom recorded come in many forms. While hunting through the Macrozamia on the slopes of the range, I noticed Pictus, the dog, eating a small piece of meat. With dingo baits in mind we at once made for the nearby homestead only to find 1080 notices on the gate. Apart from the football ground, Springsure was not a hive of activity on this sunny Sunday afternoon. There was sympathy from the matron and staff at the hospital who rang the doctor. He suggested a vet and the helpful switch girl rang every one within 150 miles without success. A call at the ambulance station drew a blank, but, spotting the local policeman in the street we asked his help. He at once suggested the Stock Inspector who had laid the baits, as a likely man to see. We followed him in a cloud of dust to the outskirts of the town where the Stock Inspector's wife gave us the antidote from a list by the telephone. A little salt and water and the offending pieces of meat were soon lying on the ground. Had the bait been fresher, no doubt the story would have been different.

The second hazard so often met with by those travelling in the back country occurred west of Moura. Here on a good stretch of road with high grass each side, a flash of grey, a crunch and tinkle of glass heralded the arrival of a kangaroo, which disappeared again just as quickly.

The only call on the homeward journey was at Isla Gorge. Now, 3 weeks later than the visit on the way north, some butterflies were beginning to appear. There were numbers of fresh Candalides erinus and several Theclinestes miskini flying on the far point.

Although there was nothing of special interest from this trip of 4970 miles in the month away, the journal notes made each evening add something to the knowledge of the country through which we travelled.

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NEXT MEETING 24/10/75

Mr. Andrew Atkins will give a talk on his latest trip to Iron Range and North Queensland.

EXCURSION NOTICE

An excursion to the Yellingbo Swamp and the forest area to the south-east will be held on SUNDAY 9th NOVEMBER, 1975.

The assembly point will be opposite the Box Hill Fire Station in Whitehorse Road, about 400m. east of the Box Hill Shopping Centre (Station Street) at 9.45 A.M..

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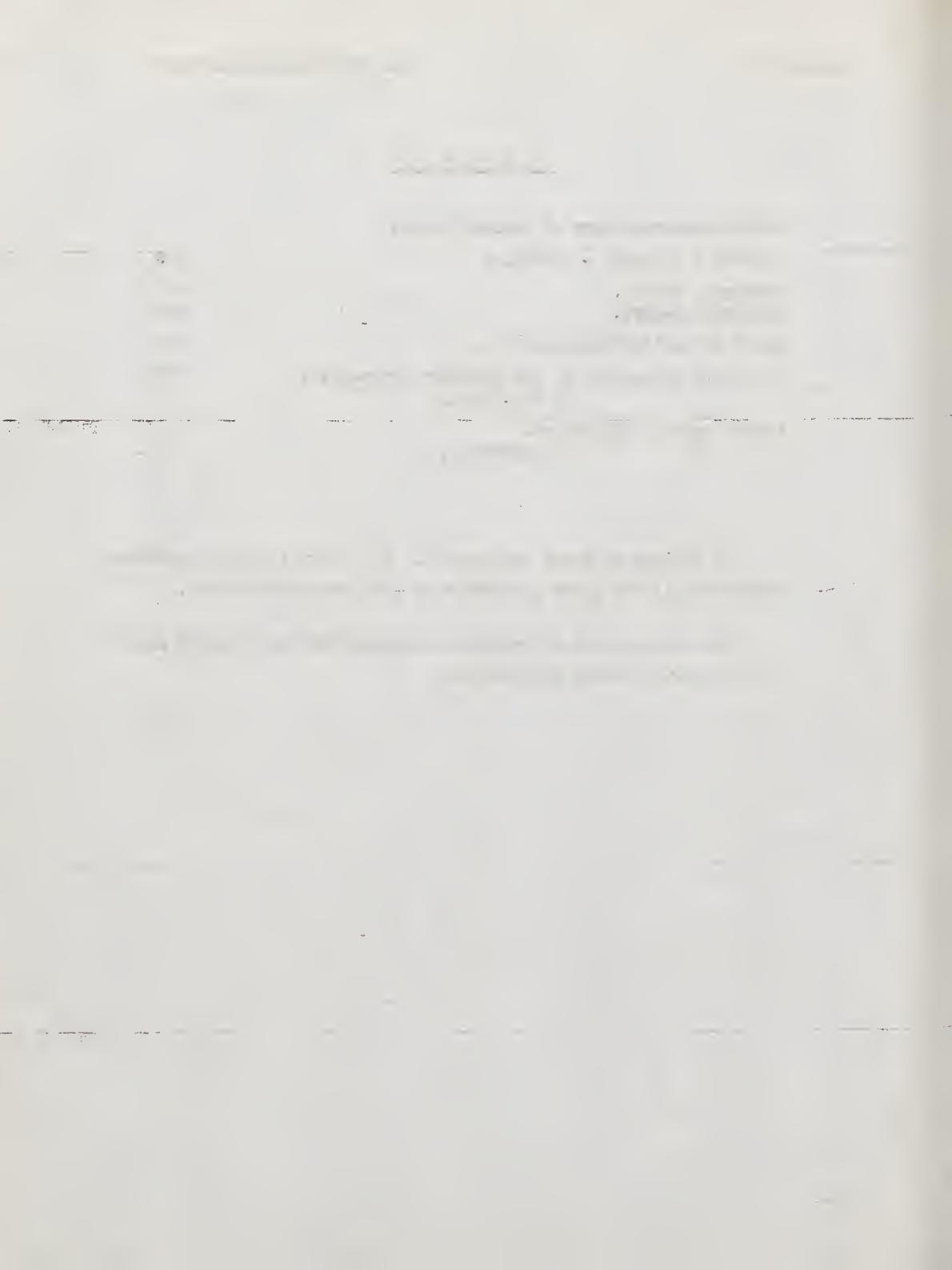
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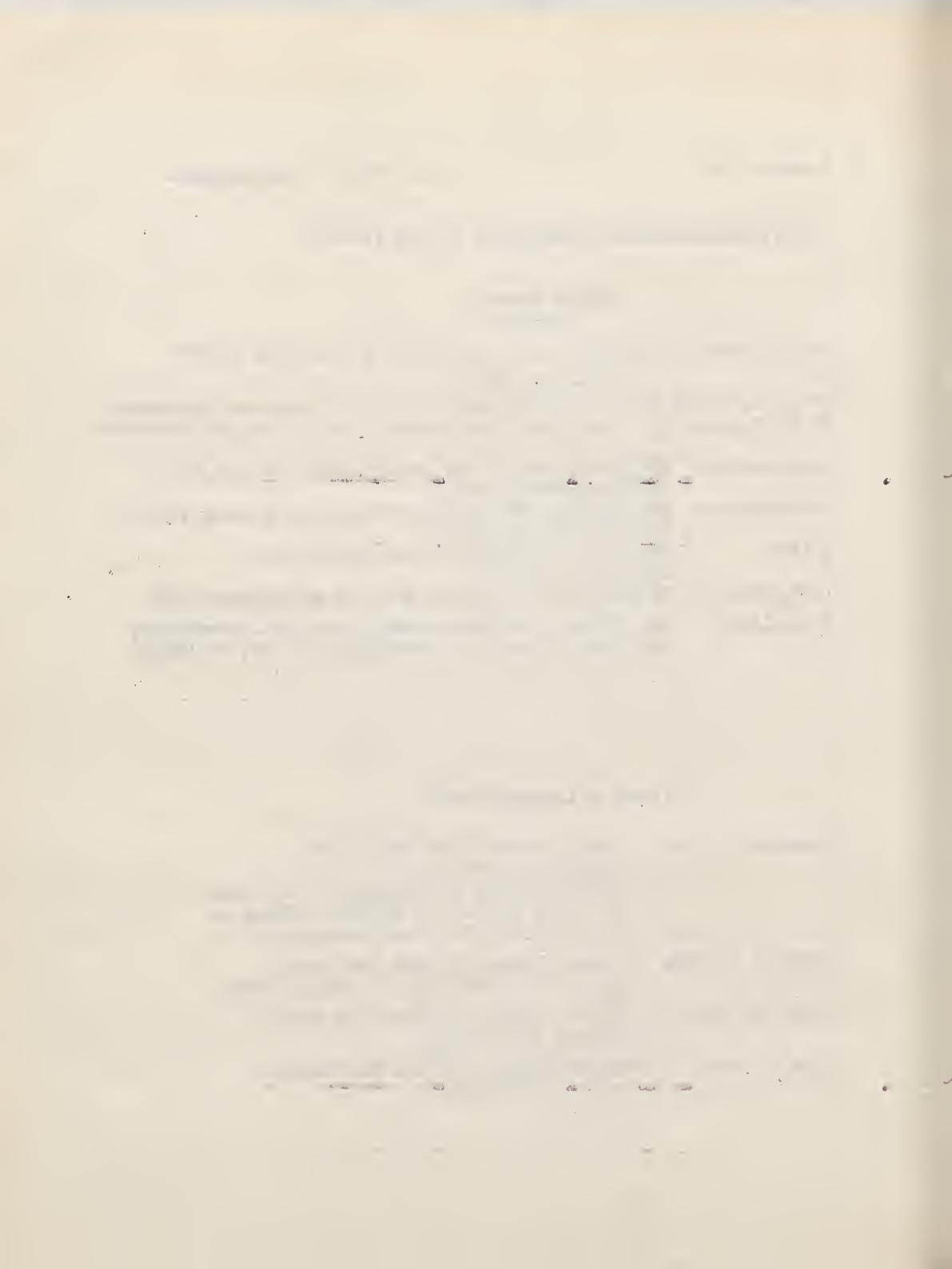
Diary of Coming Events

December 12, 1975. Members Night, Clunies Ross House.
Christmas get together.
Please note that this meeting departs from
our normal practise of holding meetings on
the second-last Friday of the month.

February 20, 1976. General Meeting, Clunies Ross House.
Topic: Film from Shell "The Small World"

April 23, 1976. General Meeting, Clunies Ross House.
Topic to be announced.

June 18, 1976. General Meeting, Clunies Ross House.
Presidential Address.



REPORTS and NOTICES

Minutes of the ordinary meeting held at Clunies Ross House, 191 Royal Parade, Parkville on Friday, 24th October, 1975.

The President chaired the meeting which was attended by 36 members and friends. Apologies were received by Mr J. Caffin, Mr R. Condron and Mr S. McEvery.

After welcoming the following visitors :- R & J Field, R & A Rouse, J. Willions

K. Thompson, K. Schwartz and A. May, the president introduced the evenings speaker, Mr Andrew Atkins, who gave a most interesting talk entitled "A visit to Cape York". This covered his collecting experiences, mainly at Iron Range, early in October and was well illustrated with coloured slides. These showed the general area and excellent close-up shots of some of our rarest species of butterflies and their life histories. Following the talk, Mr Atkins answered numerous questions from the audience, which showed its appreciation after a vote of thanks moved by Mr Le Souëf.

Returning to the formal business, various items of correspondence were received and the minutes of the previous meetings held on June 20th, and August 22nd were passed.

In the absence of Mr Condron, Mr Quick submitted the treasurers report. The President commented on the need for Journal articles, and gave details of the excursion to be held on Sunday, November 9th to the Yellingbo Swamp.

Mr Quick reported on the progress of the ENTRECS PROJECT, outlining details for members, and mentioned contacts he had made with various Government Departments etc. He advised that recording cards and instruction booklets were available.

The President advised that after much consideration, the committee had decided that it would have to increase subscriptions for 1975, mainly as a result of the steep postage increases and the general increase in the cost of material used. The new rates were as set out in the October Journal.

Mr Le Souëf advised of the recent death of Mr George Ross the well known Cairns entomologist and promised to write a note for the journal. Displays were bought by Andrew Kinsella (butterflies) and Andrew Atkins (Iron Range Butterflies).

The President in closing the meeting thanked members and exhibitors, and advised that Mr Le Souëf would chair the next meeting, the annual Christmas Members Night on December 12th, as he would be interstate at that time.

Minutes of the Council Meeting held at Clunies Ross House on the 26th November 1975, at 8.p.m.

Present:- Messrs. D. Crosby, J.Hallgarten, B.Condron, P.Carwardine Dr.T.New G.&Mrs Burns.

Apologies were received from Mr F.Hallgarten, Mr N.Quick Mr.Z.Le Souëf, Mr R.Manskie, Mr J.Caffin, Mr O.Rogge.

Correspondence:- Letters relating to insect export legislation were tabled. Queensland Ministry of National Parks to Cape York Conservation.

B.Vardy Action group, Daylesford - President to reply.

The club library was discussed and in particular its' housing. A nominal loan fee was suggested but will be discussed again at a latter date. Meanwhile an up to date list is to be prepared.

It was decided a list of current members with interests would be published each year. The next being 1976.

The treasurer reported a credit balance of \$254-63, with 67 financial members.

It was resolved to reimburse Mr N.B.Quick with \$100-00 towards expenses he has incurred in the Enfrec project.

The desirability of an excursion was discussed and a venue and date decided. (See notice this Journal)

ooOoo

EXCURSION NOTICE.

An excursion will be held on Sunday 8th February 1976 to the Heathcote district under the leadership of Mr Bob Condron. The principal meeting place will be opposite the Hotel at TOOBORAC about 4 miles south of Heathcote, at 11-15 a.m.

For those members requiring transport, we will meet at the corner of Sydney Road & Bell Street, Preston, at 9-30a.m. The route will be via the Hume Highway to Kilmore and then along the Bendigo Road which branches off the highway a mile or so past Kilmore, on the left.

ooOoo

Report on Excursion, 9th November 1975.by
D.F.Crosby.

Despite overcast and threatening weather, twelve members and friends met at Box Hill. Owing to the very wet weather during the proceeding week, the Yellingbo Swamp had become flooded and was unworkable, so the party proceeded to an alternative collecting area beneath the power lines across the Woori Yallock - Gembrook Road.

Despite showers a number of moth larvae, beetles and butterfly larvae were taken.

After a general canvas of this area, the party moved a few miles to another cleared area which looked very promising and at this stage the sun came out. A few butterflies and more larvae were taken.

The butterflies recorded were:-

HESPERILLA DONNSYA PATMOS	- Larvae and pupae.
OREISPLANUS PERORNATUS	- Larvae and pupae.
DELIAS AGANIDDE	- One caught.
ARGYNNINA CYRILLA	- One female caught.
TISIPHONE ABEONA ALBIFASCIA	- Larvae
CANDALIDES HYACINTHINUS HYACINTHINUS	One caught.

All hoped that for future excursions we will be luckier with the weather.

oo0oo

VALE GEORGE BROOKS.DEATH OF LEADING COLEOPTERIST.

The news of the death of George Brooks in Cairns will come as something of a shock to the many entomologists who visit north Queensland. For so many years, George has been the information centre for the north, always on hand to welcome and help the visitors.

A really dedicated coleopterist, he had built up the largest private collection in Australia at the same time providing much material for Australian and overseas museums.

Although he had collected widely in Queensland, his favourite spot was Mt. Spec. Here, latterly, with his son John and Ernie Adams of Edungalba, he has spent many happy days. His close associates in earlier years as well as Ernie Adams, were Closie Vallis of Rockhampton and Stan Brock of Townsville.

Entomology owes much to George Brooks for his lifelong interest in the insect life of north Queensland.

BUTTERFLY COLLECTING IN THE FLINDERS RANGES S.A.

BY

R.P. FIELD.

DURING LATE September and early October my wife and I spent 10 days collecting in the Flinders Ranges. The main aim of the trip was to collect Lycaenidae and in particular Ogyris pupae for the recording of their "clicking" or stridulatory pattern.

Our collecting commenced in the north at Arkaroola with O. smaragdalis meridionalis on the wing in the caravan park and surrounding areas. Both Elooodina padusae and Anaphalis java teutonia were also common along the road from the Homestead to the motel with females of both species freely ovipositing on the new growth of selected Native Orange trees (Capparis mitchelli). After a few days at Arkaroola we headed south and then west over the to Copley. Several colonies of E. padusae and A.j.teutonia were located along this stretch of road but no Ogyris pupae were found. I was however fortunate to take an Oroctes female flying around mistletoe growing on Eucalyptus spp. a few kilometers west of the Nepaburna Mission.

The next few days were spent at Wilpena Pound. Ogyris pupal cases were found under bark at the base of eucalypts near the northern end of the Pound, but no adults were seen. On our trek up to St. Mary's Peak, Candalides acasta was taken at about 1000m flying near Cassytha but hilltop collecting near the summit was not possible because of strong winds.

We also climbed Mt. John, the mountain that overlooks the entrance to the Pound from the south. Approximately half way up the mountain an Hesperiid landed on the rocks in front of me. Although not taken it resembled Motasingha dirpha. This was an interesting observation as I believe skippers have not previously been recorded from the ranges.

We then headed south out of the Ranges towards Port Augusta. We camped the night in the Pichi Richi Pass, just south of Quorn and spent a few hours the next morning searching the mistletoe laden mallee eucalypts for Ogyris. At last success, 1 pupa, 1 prepupa, and 2 late instar larvae were collected from under bark close to the mistletoe clumps. Ants from the genus Carponotus were attending the two larvae and a small black ant attended the pupa and prepupa. This butterfly was O. olane, probably a record in the west for this species. These specimens may more closely resemble O. o. olane, the inland sub-species than O. o. ocelia, the sub-species found in Victoria and other areas of South Australia.

Before turning for home we made a quick trip to the Iron Knob - Whyalla area in search of O. barnardi delphis. Unfortunately the weather was against collecting adults and no pupae could be found. During brief sunny periods 4 O. a. meridionalis were taken and during finer weather this would be a very productive area.

The Flinders Ranges, and in particular the mountain slopes of Wilpena Pound and the surrounding countryside, harbour an interesting range of butterflies and further intensive study will undoubtedly reveal additional species.

References:

I.F.B. and Waterhouse, D.F., 1972. 'Butterflies of Australia'. (Angus and Robertson, Sydney.)

I am grateful to Mr. A. Atkins for his identification of Ogyris olane.

INSECT EXPORT REGULATION

By
D.F.Crosby

As a result of the desire of certain Australian professional entomologists to ensure that the holotypes of Australian insects be lodged in Australian institutions which move was subsequently backed by the Conference of Australian Museum Directors (C.A.M.D) late in 1971, the Department of Customs and Excise issued Statutory Rules in July 1973 as Regulation 13 A which prohibits the export of insects from Australia for any purpose without a permit.

The official interpretation & implementation of the Regulation is explained in a set of "Guidelines". These regulations were issued without any prior advice to the Australian Entomological Society or the State societies.

Since the matter became public, the Australian Entomological Society implemented a survey amongst its members. This resulted in a clear mandate to oppose the legislation and since then the Society has taken active steps on behalf of all Australian entomologists to either have the legislation repealed or, if this could not be achieved, liberalized. With this in view discussions were held with C.A.M.D., but this body refused to recommend repeal but did propose a few minor alterations. The Government, acting on the advice of C.A.M.D. refused repeal and accepted the new Guidelines which were issued on 16th December 1974.

The Australian Entomological Society then appealed direct to the Minister for Science in a well documented case, which was supported by the State societies, including ours. However, the Minister again refused any further alterations and confirmed that the 16/12/74 Guidelines would stand. This was despite overwhelming evidence that the vast majority of interested Australian entomologists strongly objected to the guidelines in their present form or the legislation altogether.

As it would appear as nothing more can be done for the present, it is felt that members should be aware of the situation and accordingly the guidelines are published in full below.

GUIDELINES FOR THE CONTROL OF THE EXPORT OF INSECTS (INCLUDING TICKS & SPIDERS) FROM AUSTRALIA. 16/12/74.

Issued by the Department of Science with the approval of the Minister for Science for the administration of Regulation 13 A.

1. Regulation 13A under the Customs Act 1901 - 1973, which was promulgated on 19th July 1973 (Statutory Rules 1973 No.138), provides that the export from Australia of "live or dead insect" (including ticks and spiders) is prohibited except with approval from the Minister for Science, or of a person authorised by him.
2. Persons designated by the Minister for Science to approve export under this Regulation are listed in the attachment to these guidelines.
3. Except as provided in 6 and 7 below, a person wishing to export insect, ticks or spiders from Australia, should submit to an authorised person an application for an export permit on the Australian Customs form G64, Restricted Goods - Export Permit, obtainable from the Secretary, Department of Science, P.O.Box 449, WODEN, A.C.T. 2606, Australia, or from any of the authorised persons. The application should specify whether the specimens represent -
 - (a) a loan made to a reputable overseas institution or person.
 - (b) the return of a loan, the property of an overseas institution or person.
 - (c) insects, etc. not native to Australia.
 - (d) paratypes.
 - (e) insects, etc., believed to belong to well known species and intended for laboratory experimentation or for release overseas for purpose of biological control. or
 - (f) insects etc., believed to belong to well known species and intended for use in research involving destructive treatment.
 - (g) specimens other than above.
4. An authorised person to whom application is made as in 3 above shall approve export -
 - (i) of material in categories 3(a) to 3(f), if he is satisfied that it is as described.
 - (ii) of material in category 3(g), if the overseas recipient has signed a general undertaking that all holotypes that may at any time be designated from among any native Australian insects, ticks or spiders received by him or his institution after 19th July 1973 (other than borrowed specimens being returned) will be lodged in an Australian museum or in the Australian National Insect Collection, Canberra, or has signed a similar undertaking restricted to the consignment in question.
 - (iii) and may approve export - of material in category 3(g) if the application is accompanied by a certificate signed by a person who, in the opinion of the authorised person,

is competent to identify the material, to the effect that all specimens of Australian insects, ticks and spiders belong to named species.

A schedule of persons and institutions in respect of which general undertakings have been accepted by the Department of Science will be maintained and circulated to all authorised persons. Copies of the schedule may be obtained on request from the department.

5. Persons within Australia, who wish to export insects, ticks or spiders, in category 3(g) should ensure, before entering into any contractual arrangement, that the intended overseas recipient has fulfilled all requirements for the issue of an export permit. Overseas persons or institutions proposing to collect specimens in Australia for lodgement overseas should similarly ensure, before making other arrangements, that they are qualified to receive an export permit by having lodged the required undertaking and been notified of its acceptance.

6. The requirement to make application for an export permit shall not apply to authorised persons representing or responsible for the Australian National Insect Collection or a Statutory Government Museum. Persons representing or responsible for non-statutory museums or collections may also be accepted by the Minister for Science. Recommendations for persons in this category may be made by the Conference of Australian Museum Directors, advised by the Australian Entomological Society, where such collections are protected by appropriate safeguards. An individual authorised under this paragraph will be issued with a special sticker by the Department of Customs and Excise for attachment to each authorised consignment.

7. The requirement to make application for an export permit may be waived and authority to use a special sticker may be granted to an authorised person in an institution responsible for any collection other than approved in 6 above, or to any other person, by the Department of Customs where the person is listed for the purpose by the Department of Science. Such an institution or person will only be listed where an institution registered in 6 above certifies to the Minister for Science that it has

an agreement with the person or the institution that all present and future holotypes from material so despatched will be lodged with a Statutory Government Museum or the Australian National Insect Collection and the applicant for the sticker so certifies. Persons approved under this paragraph may only authorise export of material owned by themselves or their institution.

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THE
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Journal of
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February 1976.

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The Victorian Entomologist



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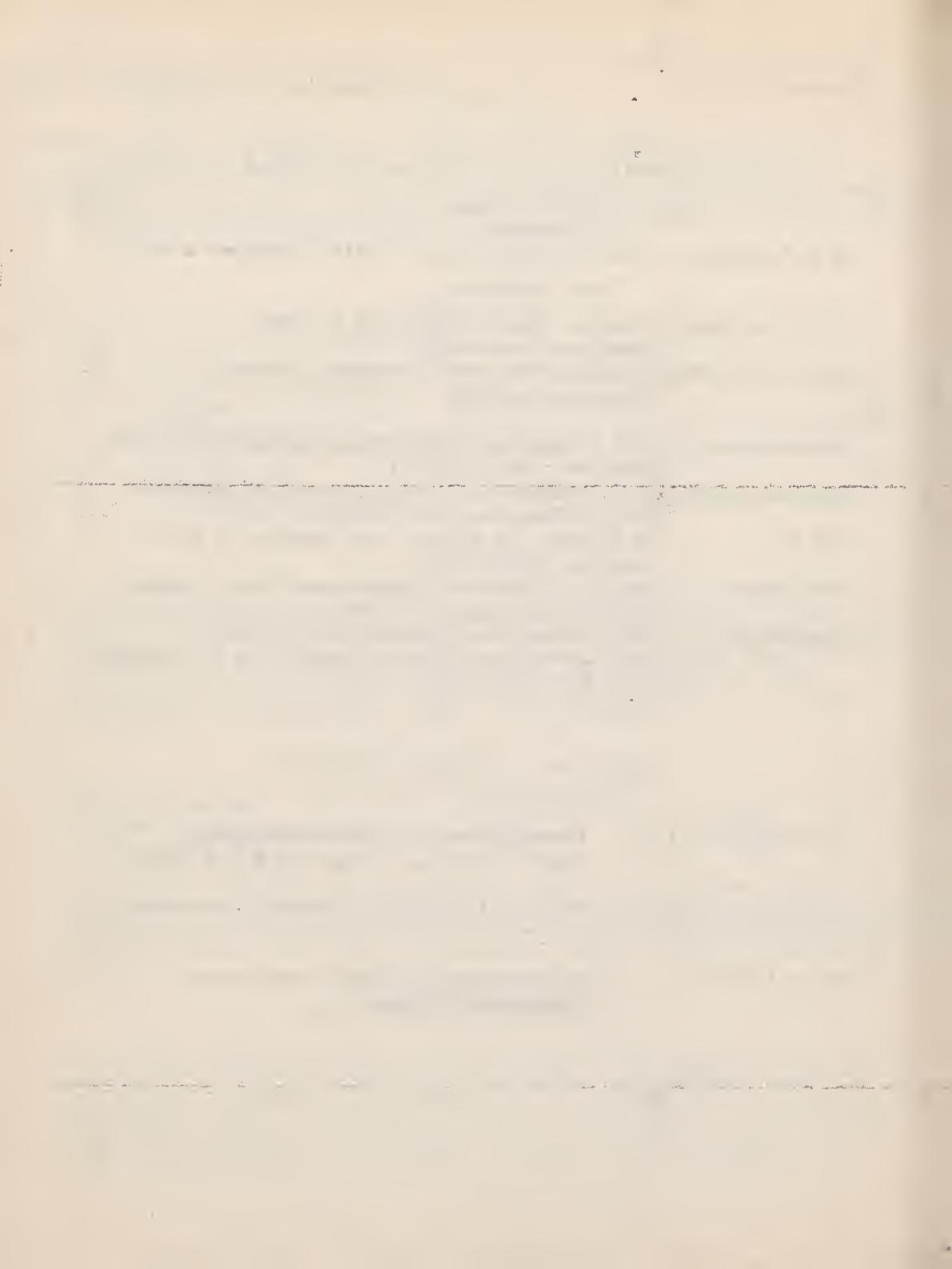
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Dr. T. New, Mr O. Rogge.

DIARY of COMING EVENTS

February 20, 1976. General Meeting. Clunies Ross House.
Topic: Film from Shell "The Small World"

April 23, 1976 General Meeting. Clunies Ross House.

June 18, 1976 General Meeting. Clunies Ross House.
Presidential Address.



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Reports & Notices

Minutes of the General Meeting held at Clunies Ross House, 191 Royal Parade, Parkville, on Friday 12th December.

The Vice-President Mr. Le Souef chaired the meeting in the absence of the President. There were 38 members and friends in attendance. Apologies were received from Mr D.F. Crosby, Mr T. Morton, Mr C. Mc Cubbin and Miss White.

Minutes of the last meeting were confirmed and the correspondence was read and accepted. This included letters to and from the Minister for Science regarding the export legislation.

Reports from the Treasurer and the Editor were received., the editor giving notice that he would not be able to continue in this capacity for the year 1976-77.

The matter of the library was discussed and it was agreed that this be consolidated and made readily available to members as soon as possible.

After these formalities, the meeting took the form of the usual members social evening, during which a great deal of interesting information was exchanged over coffee and biscuits.

In closing the meeting the Presidents wished members and their families a Merry Christmas.

ooOoo

Minutes of the Committee Meeting held at Clunies-Ross House Friday 3rd. February.

The Shortage of material for the Journal was discussed.

Mr. W. N. B. Quick made a report on his meeting with the Australian Biological Resources Survey Interim Council, at which various alternative methods of data recording were outlined. Mr Quick felt that most of these did not improve upon the system that we had developed.

Accordingly it was decided that the Entrecs system would not be altered until benefits from other systems could be established.

It was also decided to seek financial assistance from suitable sponsors for the Entrecs project. The President is to write accordingly.

ooOoo

OBTAINING BURROW CHARACTERISTICS: Paraffin Wax,another method.

V. Salinitri.

A wide variety of animals, most particularly insects, spend part of their life history as eggs, larvae, nymphs, pupae or adults in burrows in soils. Bryson (1939) suggested that burrow characteristics such as size of burrow, shape and characteristic turns and character of the interior of the burrows, can be used as means of identifying the animal that produces them. Ettershank (1968) in the investigation of the gallery structure of the meat ant, *Iridomyrmex purpureus*, is suggesting that strategies employed in the construction of the burrows contribute to the colony defence as well as having evolutionary significance, indicates that the study of burrow characteristics may in addition provide ethological as well as evolutionary information.

The study of subterranean nest characteristics by way of dissecting the burrow into a vertical pit dug alongside and recording the dimensions and other data (Main 1967) present varying degrees of difficulties, according to the complexity of the burrow investigated. It is no surprise therefore that a wide variety of methods and means have been employed. Talbot (1943) traced nests of ants by pouring water down the entrance and excavating. Brian and Downing (1958) used latex compound, Markin (1964) used molten solder and Ettershank (1968) using molten lead produced rigid castings of the tunnels of ants and other arthropods.

Attempts with lead in producing three-dimensional casts of various arthropods (scorpions, spiders, and ants) revealed that the method had some limitations and a certain degree of impracticability. The high specific gravity (S.G.) of lead (11.25-11.4) although attractive in the sense that it can quickly reach deep chambers also meant that in order to cast burrows of volumes of a litre or more approximately 12 Kg. of lead had to be transported into the field. In addition the melting point (M.P.) of 328°C although low in comparison to other suitable metals is high enough to damage specimens to such an extent that correct identification of the occupant could only be tentative. This was found to be a severe limitation especially when investigating burrows of spiders, scorpions and some lepidopterous larvae. The cryptic behaviour of these arthropods necessitates that the occupant be recovered from the cast in the best possible conditions to ascertain the correct identity of the species involved.

The physical properties of paraffin wax; solid at room temperature thus capable of producing rigid structures yet with a M.P. 49-63; low S.G. of 0.896-0.925 (lighter than water) and the annoying property of taking an incredibly long time to solidify when preparing histological blocks in a hurry, suggested that this material could be used in burrow casts that were light and specimens could be recovered with a minimum damage.

A large tea-pot acquired from shearing sheds during a field trip was found to be the most suitable melting pot for the wax. A single burner gas primus and occasionally only a small fire of twigs was found more than adequate to melt a 'pot-full' of wax. Once the wax was molten it was allowed to stand until a very fine skin(solid wax on the surface) formed at the surface, at which time the burrow was cast. Allowing the molten wax to stand until formation of a 'skin' eliminated the need of a thermometer. It was found that at this temperature (approx. 55) any burrow could be cast regardless of the type of soil.

Depending on the size of the nest and the ambient temperature time of 10 minutes for spider burrows to 30 minutes for bull ant burrows were allowed for cooling. After the required time had elapsed a small quantity of wax had to be added to counteract the effect of shrinking the burrow was then ready for excavation.

Large and complex burrows such as those of ants (*I. albipes*, *M. purifinis*) were excavated by carefully digging pits alongside so as to expose the perimeter of the nest. Because of the delicate nature of most of these nests it was found necessary that the casts be transported to the laboratory still embedded in the soil matrix. On the other hand casts which were sturdy were cleaned in the field and transported to the laboratory in beds of sand within boxes.

In the laboratory the casts were then photographed from one or more angles according to their complexity and other measurements such as volume, position of the specimen(s) were then noted. When satisfied that all necessary data had been recorded other information could then be gathered by melting the cast as a whole, (spiders, scorpions) or in sections.

Casts which were of no further use were melted in warm water. Specimens thus released from the wax matrix were then recovered, washed in xylol (occasionally turpentine), absolute alcohol (5' each) and stored in 70% alcohol. Where there was an interest in locating the precise position or the number of specimens at a particular position, sections of the cast were cut off with a hot knife (e.g. ants) and melted. Often, when the cast involved a single specimen, the specimen could be located by the 'shadow' it cast within the wax and in such cases only that particular portion was melted if the burrow cast was to be of further use.

Paraffin wax, as a means of obtaining burrow characteristics has been successfully used for ants, scorpions, spiders. The only problems which have presented so far were in excavating intact ants' nests which were very thin or less than 4 mm diameter and very long. Finally one word of caution:- REMEMBER THE MELTING POINT IS AROUND 50 C. It should never be left in the sun.

Book Review:
W. N. B. Quicke:

Birdwing Butterflies of the World.

Bernard D'Abrera. Lansdowne Press, Melbourne. 1975.
260pp., 27 cm x 35 cm.

'Birdwing Butterflies of the World' is essentially a monograph a photo-index of the genera Ornithoptera, Triodes and Trogonoptera. All species, and almost all races, are illustrated life size in colour--- an ample justification in this case for the dimensions of the publication, when the size of such species as Ornithoptera alexandrae is taken into account.

Unlike 'Butterflies of the Australian Region' in which for technical reasons all reference illustrations were bled to a neutral grey background, Birdwings employs a plain white background, each reference plate margined with a simple, fine ruled line --- a very effective treatment. Both definition and quality of colour reproduction in the copy examined are generally excellent, although there is an inconsistent tendency for a slight green cast to appear over some of the warmer greys and velvety blacks, which are superbly dense in the majority of cases. The field studies under natural light, even manage to capture the magnificent prismatic sheen and subtle hues of these superb insects; and the rich velvety darkness of the larval epidermis. There is, to be truthful, a disappointing blue-green colour imbalance within the introductory section depicting some of the characteristic habitats but this is of minor concern. The illustrations are not restricted to reference plates, and numerous excellent in-situ studies, depicting early stages, behaviour and other details freely intersperse the text.

It is not intended in this review to debate the advisability of including taxonomic matter in a publication of this nature. Certainly there has been much division of opinion in the past, but perhaps the monographic nature of this new work will provide less fuel for the fire which Seitz unwittingly torched. Taxonomically, few changes are proposed which have not at some stage in the past been at least suggested by other workers. Grounds for all taxonomic rearrangement are adequately covered in the text, but the authors statement on page 52, 'But for its smaller size in both sexes, it (O. p. pronomus) is indistinguishable from poseidon in markings, wing shape, etc. in colouration and male genitalia' is not adequately substantiated by the illustrations of these species.

The fashionable inclusion of burdensome discourses on insect morphology and anatomy, occasionally controversial, sometimes irrelevant, and frequently plagiarised, has mercifully been resisted, and such matter is restricted to the essential minimum. Certain to attract criticism from some quarters, retention of the older numerical notation of wing venation of lepidoptera will still have many supporters.

The text, adequately proportioned to each species and race, abounds in refreshing examples of the author's inimitable phraseology, and in qualification of the accompanying illustrations, provides a summary of synonymy, diagnostic features, degree of variation within the various populations and, wherever known, a description of the early stages and the name of the host plant. The author has adhered to the precedent set in his earlier works, and abbreviates 'upperside' and 'underside' to 'R' (recto, or righted) and 'V' (verso, literally 'turned', or ventral side)... a simple, precise and universally applicable treatment which others would do well to adopt.

Perhaps the real test of balance between the adequacy of the text and the attraction of illustrations is to regard each separately. Without the illustrations, there is no doubt that this work would still stand as a viable and worthwhile publication, albeit with a lowered sales appeal. The illustrations alone would serve as a valuable reference for comparative purposes. Taken together, 'Birdwings' represents the outcome of a great deal of time, research and travel, and is a much more 'professional' product than was attempted in 'Moths of Australia', and more adequate than space permitted in 'Butterflies of the Australian Region'.

For those who regard the appearance of any new work as an opportunity to display their ability to locate errors and shortcomings, the following are offered as starters: one printer's error, one author's error, and two unclassifiable. The work is well indexed, cross-indexed and indexed for a fair degree of synonymy, but far too many pages lack numbers for the location of text to be convenient. And surely in a production of this quality the publishers could see fit to provide a map of suitable standard. Instead, a confusing array of ill-chosen type-faces, multiple delineations, and at least a couple of mis-spelled names assails the reader. The quaint selection of Australian features and place-names....L.Eyre, Cooper(creek?), Flinders (river?), Cooktown, Mackay, Maryborough and Clarence (river?), seem to bear little more relation to the 'Birdwings' than do the Nilgiri Hills of Southern India! Fortunately the map lifts out.

Even by today's opulent standards, this new goliath from the D'Abrera - Lansdowne stable is a lavish production, and a further test of strength for the coffee-table. While undeniably a desirable addition to the bookshelves, the limited scope of any monograph (some of which

in this instance was covered by 'Butterflies of the Australian Region' by the same author) may cause all but a few specialist collectors to regard it as an extravagance ... but of course they will buy it!

It is hardly possible to conclude a review of this new book without comment on its presentation. The large volume is supplied in a heavy, fabric-covered sleeve, ensuring not only protection in transit, but much easier re-placement in the bookshelf without fear of it plummeting out of the elegant but tasteful dust cover.

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EXCURSION NOTICE

Mr Peter Kelly will be leading an excursion to the Brisbane Ranges on Sunday 14th March. For those requiring transport there will be a pick-up at West Footscray Station adjacent to the Geelong Road at 9-45a.m., with departure at 10a.m. The main meeting place will be at Anakie township at the corner of Anakie Road and Demotts Road at 11-a.m.

The recommended route to Anakie is via Lara.

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Councillors: Mr A. Atkins, Mr G. Burns, Mrs J. Burns,
Mr P. Carwardine, Mr F. Hallgarten, Mr R. Manskie,
Dr. R. New, Mr. O. Rogge.

DIARY OF COMING EVENTS

April 23, 1976. General meeting, Clunies-Ross House.

June 18, 1976. Annual General Meeting, Clunies-Ross House.
Presidential Address.

Minutes of an Ordinary Meeting held at Clunies-Ross House
191 Royal Parade, Parkville, on 20th February 1976 at 8 p.m.

The President chaired the meeting which was attended by 38 members and friends.

Apologies were received from Messrs. W.N.B. Quick, T. Mortin and Miss. White.

After welcoming the following visitors and new members; Messrs. C. Hewson, R. English, E. Tuilon, B. Blackburn, N. Haslin, the minutes were read and confirmed.

Mr R. Condron then submitted the treasurers report. The 1974/75 balance sheet has been audited and is included in this Journal.

The Editor outlined reasons for the Journal not being published prior to the meeting.

The President gave reports on the Heathcote excursion on 9th February and to the Brisbane Ranges on 14th March.

The following displays were provided:-

Mr R. Manskie	Butterflies, Maryborough Qld.
Mr R. Vaggi	Butterflies.
Mr G. Burns	Piesarthius marginellus hope
Mr D. Crosby	Eggs, Butterflies & Pupae.

ooOoo

Minutes of a Committee meeting held at Clunies -Ross House on 30th March 1976 at 8. p.m.

Present:- Messrs. D. Crosby, J. Hallgarten, R. Condrom, Dr. T. New, R. Manskie, A. Atkins, G. Burns, P. Carwardine, J. Caffin,

Apologies were received from Messrs. W.N.B. Quick, O. Rogge, F. Hallgarten, Z. Le Souff

Correspondance:- Letters were received from the Victorian National Parks Association, Australian Entomological Society, Australian Conservation Foundation. Land Conservation Council East Gippsland report re the loss of the Lind National Park. It was decided the President should write to the Minister for Conservation and a copy of this letter be inserted in selected daily newspapers.

The Treasurer reported a credit balance of \$327.08, with 52 financial members.

It was resolved to reimburse Mr W.N.B. Quick the remaining \$100.00 for the ENTRECS project.

HONORARY TREASURER'S REPORT.

Statement of Receipts and Expenditures for the year ending
31st December, 1975.

Credit balance b.f. 158.12

<u>RECEIPTS.</u>	<u>EXPENDITURES.</u>
Bank interest. 7.62	Journal production, paper stencils etc. 120.46
Subs 1975 264.60	Hire of projector and cafe bar 10.00
Donations. 2.00	Postage 24.94
Ex. Subs. Sales Vic. Entomologist. 15.50	Affiliation fees (Aust. Entom. Society) 6.00
Advertising fees rec'd 16.90	
	161.40
	Credit balance bank. 303.34
464.74	464.74

Audited and found to be in accordance
with the records submitted.

1974 Balance sheet has
also been audited.

9/2/76. H. B. Perry.

EXCURSION REPORT.Brisbane Ranges4th March 1976.

About 20 people comprising members, their families and friends attended this excursion which was led by Mr Peter Kelly.

After assembling at Anakie, the party proceeded into the hills to visit potential collecting areas. At the first stop, about three miles from the township a number of butterflies including Ogyris olane ocela and Delias aganippe were seen and some of the latter were caught flying around a flowering gum.

A move was made to the picnic ground in the National Park for lunch. This proved to be a very pleasant area, but no collecting could be done.

We then climbed out of the valley over a range and down into another valley beyond the park. This area proved more profitable. Beside the creek a number of butterflies were recorded including:-

<i>Heteronympha merope merope</i>	worn females.
<i>H. penelope sterope</i>	fair males & females.
<i>Oreixenica lathoniella herceus</i>	fresh males
<i>Geitoneura klugii klugii</i>	worn females.
<i>G. acantha ocera</i>	fair males & females
<i>Dispar compacta</i>	worn females
<i>Eurema smilax</i>	one male
<i>Zizina otis labradus</i>	males & females
<i>Neolucia serpentata</i>	one specimen

A number of beetles and moth larvae were also taken.

Unfortunately the ranges were generally rather dry, but many areas looked promising for spring collecting.

All those that participated enjoyed the outing as the weather was kind on this occasion, and our thanks go to Peter Kelly for showing us this interesting piece of country relatively close to Melbourne.

ooOoo

Heathcote Excursion8th February 1976

Several members and friends left Melbourne for a days collecting in the Heathcote district on what turned out to be a fine hot day.

At Tooborac we met up with three other cars from Bendigo and Stanhope and spent a while collecting. A single Danaus plexippus made its' appearance, some Lictor Case Moths (Family Psychidae) and Faropsis sp. beetles were found in various stages.

We moved on to Mt. Ida, a few miles north of Heathcote, and did some collecting at the foot. The vegetation was mainly Acacia, Eucalyptus with Mistletoe and some Exocarpus (Native Cherry). Here again Paropsis beetles of many different species were plentiful in all stages. Various other beetles were collected and some Philomastiginae sp. sawfly larvae, which is more attractive than the usual sp., were found.

Some Ogyris olane were sighted and a mistletoe feeding Agaristidae moth was common.

We moved on to the summit and here Delias aganippe and O. olane were more plentiful. With some acrobatic acts up a gum tree, two good specimens of O. olane were netted by one of the Bendigo visitors.

One Danaus chrysippus petilia was sighted and larvae of Nyctemera amica (Cineraria Moth), Nola metallopa, Limacodidae sp. and Geometridae sp. larvae three inches long were collected.

P, Carwardine.

ooOoo

S E R V I C E T O M E M B E R S .

W A N T E D

A copy of "Victorian Butterflies" by Anderson & Spry. 1893.

P. Carwardine, 2A Victoria Road, Malvern 3144

NOTES ON SOME BUTTERFLY CAPTURES IN VICTORIA.

by

Andrew Atkins*

Localities are given for the following butterflies collected by the author in January, 1976.

<u>Ocybadistes walkeri sothis</u> Waterhouse	Gunbower	2.1.76
<u>Heteronympha cordace wilsoni</u> Burns	Nelson	9.1.76
<u>Oreixenica kershawi ranunda</u> Tindale	Nelson	9.1.76
<u>Tisiphone abeona antoi</u> Tindale	Portland	8.1.76
<u>Jalmenus icilius</u> Hewitson	Wartook	10.1.76
<u>Hypochrysops delicia delos</u> Waterhouse & Lyell	Lysterfield	1.1.76
<u>Theclinesthes onycha onycha</u> Hewitson	Mt. Hope	2.1.76
<u>Candalides hyacinthinus hyacinthinus</u> Semper	Nelson	9.1.76

In the species listed, the skipper Ocy adister walkeri has doubtfully been recorded previously from Victoria (W. N. B. Quick, personal communication), and Common and Waterhouse (1972) do not include Victoria in the distribution of this grass dart. The single male specimen was flying over couch grass.

The two species of Satyrinae collected at Nelson represent extensions to their range which includes Dartmoor on the Glenelg River, upstream from Nelson. It is of interest to note that Oreixenica lathonella also occurs near the mouth of the Glenelg at Nelson.

Tisiphone abeona has been collected at several localities along the southwestern coast of Victoria, including Anglesea, Lorne, Apollo Bay and the Cape Otway area. Differences between the southern New South Wales

* Flat 1, 29 Greville Street, Prahran, Victoria 3181

and eastern Victorian T.a. albifascia and the race antoni from south-eastern South Australia and western Victoria may prove to be clinal. The specimen collected at Portland does not differ markedly from albifascia.

Two large colonies of Jalmenus icilius were found at Wartook. All stages of life - history were observed, eggs on the stems and at the base of young Acacia pycnantha shrubs, larvae on the leaves of this plant, attended by numerous small black Iridomyrmex(?) ants. Many pupal shells were found under fallen leaves, bark and debris at the base of both juvenile and older trees and in the cracks of tree-trunks. This species was common at Wartook between 1948-51 but has not been collected since (Mc Cubbin, 1971).

Three male Thesprotistes onycha were collected at Mt. Hope, northern Victoria. Several other specimens were seen flying around wattle trees on the summit of this granite out-crop.

A number of Hypochrysops delicia were seen feeding at the flowers of Leptospermum near Churchill National Park, Lysterfield. Egg clusters of this species were found on the trunks of Acacia mearnsii. Clusters were also seen in the Melbourne suburbs of Blackburn, Mt. Waverley and Nunawading. The species was common this year at the You Yangs where six males were collected on Flinders Peak. A few lycaenids, believed to be H. delicia were also observed at Reids Look-out in the Grampian Mountains.

The typical race of Candalides hyacinthinus is common on the fossil sand-dunes at Nelson where its' foodplant Cassytha grows. Though this locality is west of the Grampians, to which the typical race extends, there is no evidence of hybridization with C.h. simplex which might also be present in the area.

ooOoo

NOTE:

The next General Meeting on April 23rd., will be a members night.

All members are requested to bring exhibits.

Further Notes on the Butterflies of the Big Desert

by

D. F. Crosby

Having had some success on a number of visits to the Big Desert in late October/early November, it was decided to investigate the area in September and March, with the main objective of ascertaining whether Ogyris Otanes was on the wing then and to obtain specimens of Motasingha atralba eralba from both the spring and autumn broods.

Accordingly a trip was organised for the weekend of September 14th and 15th of September 1974, on which the author was accompanied by Mr W. N. B. Quick. Unfortunately the weather was wet and cold on the Saturday and the only access road was so bad that the collecting area was not reached till late in the day. However, the weather was better on the Sunday but the cold weather beforehand had discouraged emergences and there were few insects flying. Those butterflies recorded were:-

<u>Candalides acastus</u>	a few, good specimens.
<u>Candalides Hyacinthus simplex</u>	two males
<u>Nacaduba biocellata biocellata</u>	one male.

There were no O. otanes on the wing nor any M. alralba. The known colonies of the former were searched and although a few ants were observed, no larvae or pupae could be found. The several patches of Gahnia Lanigera were thoroughly combed but only about six half grown larvae were found. This was interesting as visits by D. E. A. Morton and the author to the colonies of this species near Lake Hattah had produced full-grown larvae, pupae and adults in mid-to-late-September.

The proposed autumn visit took place on the weekend of March 8th and 9th 1975, accompanied by Messrs. D. E. A. Morton and W. N. B. Quick. On this occasion the weather was ideal, hot and sunny, but there were not large numbers of butterflies on the wing.

C. acastus were common but worn and C. hyacinthus simplex males were also common and fairly good condition. There were no signs of C. cyprinus cyprotus, M. dirphia trimaculata or Trapezites sciron eremicola, all of which are common in the spring.

It was decided not to disturb the colonies of O. otanes but two good males were caught on the top of one of the sandhills. It would thus appear that this species may have two broods.

A search of the tussocks of Gahnia yielded a few large larvae of M. atralba and about a dozen pupae, which emerged over the period 13th to 29th March. No adults were seen, but this was not unexpected as they are very local and do not appear to hill-top.

A new record in the form of a nice female of Hypochrysops ignita was made. Zizina otis labradus was common and a number of Delias aganippe, were seen and caught.

The next visit was made on the 4th and 5th October 1975, which was three weeks earlier than the times of the prior October visits.

The results were:-

<u>D. aganippe</u>	three males caught.
<u>Vanessa kershawi</u>	few
<u>V. itea.</u>	few
<u>C. hyacintinus simplex</u>	few good males.
<u>C. cypricus cyprotus</u>	three fine males only, apparently just emerging.
<u>C. acastus</u>	few but worn
<u>Zizina Otis labradus</u>	none
<u>Ogyris otanes</u>	two half grown larvae only. (left on bush)
<u>M. dirphia trimaculta</u>	one pupa only
<u>M. atralba atralaba</u>	small and half grown larvae only, with a number of fresh empty pupal shells.

Unfortunately on none of the above occasions were any Theclinesthes species seen or caught, although carefully searched for. It had been hoped that further specimens would have been captured after the two taken previously on 16/9/73 and 28/10/73, and knowing that they occur near Wyperfeld in March. However, preliminary searches for the probable food plant Adriana hookeri had been unsuccessful. Further investigation for the plant will be given priority on future visits.

References: Crosby, D. F. 1972 "Some Butterflies of the Victorian Big Desert". VIC.

ENTOMOL 2 (3) June pp 5-7 1974
"Notes on Insects of the Big Desert Vic, Part ii" Vic ENTOMOL.
4 (5) October pp58, 59.

An explanation of the entomological terms used by Mr J. H. Carter
in his key to the Genus *Stigmodera* (Family Buprestidae).

by

G. G. Burns.

ABBREVIATED:	cut short; not of usual length ..
ACUMINATE:	tapering to a long point.
ANOMALOUS:	unusual; departing widely from the usual type.
ANTERIOR:	in front; before.
APEX:(pl. apices)	that point of the wing furthest removed from base.
APICAL:	at the end; tip, or outermost part.
ARCuate:	arched; bowlike.
ATTENUATE:	gradually tapering spically, drawn out, slender.
BASAL:	at the base, near the point of attachment.
BASE:	that part of any appendage or structure that is nearest the body.
BI-:	Latin prefix; two or two fold.
BI-COLCROUS .	with two colours that contrast to some extent.
BI-DENTATE:	having two teeth.
BI-FURcate:	divided partly, or forked into two.
BI-SPINOSE:	having two spines.
CARINA:(pl. carinae)	an elevated ridge or keel, not necessarily high or acute.
CARINATE:	ridged or keeled.
COALESCENT:	united or growing together.
CONCOLOROUS:	of a uniform colour.
CONVEX:	the outer curved surface of a segment of a sphere.
CORDATE:	heart shaped, triangular, with the corners of the base rounded.
COSTA:(pl. costae)	any elevated ridge that is rounded at its crest; the thickened anterior margin of any wing, but usually of the fore-wings.
COSTATE:	furnished with costae or longitudinal raised ribs.
CYANEous:	pure dark blue; indigo blue.

DENTICULATE:	with minute tooth-like projections.
DEPRESSED:	flattened down as if pressed.
DISC:	the central area of a wing.
DISCAL:	on or relating to the disc.
DIVERGENT:	spreading out from a common base.
ELONGATE:	drawn out, lengthened; much longer than wide.
ELYTRA:	the anterior chitinous wings of beetles.
ENTIRE:	with an even unbroken margin; said of wings when they are not divided or cut into.
EXCISED:	with a deep cut or notch.
EXPLANATE:	spread out and flattened; applied to a margin.
EXTERIOR EDGE:	the edge of the insect wing expanding from the base to the apex.
FASCIA:	a transverse band or broad line.
FASCIATE:	with a broad transverse stripe or band.
FOVEA:(pl. foveae)	a deep depression with well marked sides; a pit.
FREE:	unrestricted in movement; detached; not firmly joined with or united to any other part.
GLAEROUS:	smooth, hairless and without punctures or structures.
GLOBOSE:	spherical, or nearly so.
HUMERAL:	pertaining to the shoulders.
HUMERUS:	the shoulder; in Coleoptera, the basal exterior angle of the elytra.
INTERVAL:	the space between two structures or sculptures.
LAEVIGATE:	smooth, shining and without superficial elevations.
LATERAL:	on or pertaining to the side.
LATEROBASAL:	towards the side and base.
LINEAR:	linelike; long and very narrow.
LONGITUDINAL:	lengthwise of the body.
LUNATE:	crescent shaped.
MARGIN:	the more or less narrow part of a surface within the edge.
MEDIAL:	referring to, or at the middle.

OBESЕ:	fat; unnaturally large and distended.
OBLIQUE:	slanting; any direction between perpendicular and horizontal.
OBLONG:	longer than broad.
OBSCURE:	dark; not readily seen; not well defined.
OBSOLETE:	almost or entirely absent; indistinct, not fully developed.
OVATE:	egg shaped.
PILOSE:	covered with soft down or short hair.
POST-:	Latin prefix; after; behind.
PRE-:	latin prefix; before.
PRE-APICAL:	situated just before the apex.
PRO-:	latin prefix; anterior; before; forward.
PRODUCED:	drawn out; prolonged; extended; disproportionately long.
PRONOTUM:	the upper or dorsal surface of the prothorax.
PUBESCENT:	downy; clothed with soft, short, fine, closely set hair.
PUNCTATE:	set with impressed points or punctures.
RUGOSE:	wrinkled.
SCUTELLUM:	a sclerite of a thoracic notum, appearing as a more or less triangular sclerite behind the pronotum.
SERRATE:	toothed along the edge like a saw.
SERRULATE:	finely serrated; with minute teeth or notches.
SINUATE:	cut into sinuses; wavy; specifically of edges or margins.
SINUS:	an excavation as if scooped out; a curved break in an otherwise straight margin.
SPINOSE:	beset with spines.
STRIA:(pl. striae)	a longitudinal depressed line or furrow, frequently punctured, extending from the base to the apex of the elytra.
SUB-:	latin prefix; under; slightly less than; or not quite so.
SUB-EQUAL:	similar, but not equal in size, form or other characters.
SUB-PARALLEL:	nearly parallel.
SUFFUSED:	clouded or obscured by a darker colour.

SULCUS:	a furrow or groove; a groove-like excavation.
SUTURAL:	of or pertaining to a suture.
SUTURE:	the line of juncture of the elytra.
TESTACEOUS:	bearing a test or hard covering; brownish-yellow.
TRANSVERSE:	running across; cutting the longitudinal axis at right angles.
TRUNCATE:	cut off squarely at the tip.
VIOLACEOUS:	violet coloured.
VITTA:(pl. vittae)	a broad longitudinal stripe.
UNICOLOROUS:	of one colour throughout.

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NOTE.

Do not forget the Annual General Meeting for election of Office Bearers will take place on June 18th.

Vol. 6 : No. 3 o June

1976



THE
VICTORIAN ENTOMOLOGIST



Journal of
The ENTOMOLOGICAL
SOCIETY of VICTORIA

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The Entomological Society of Victoria

Membership

Any person with an interest in Entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's journal, the "Victorian Entomologist". The Society encourages corporate membership of Schools and Study Groups, University departmental staff and Libraries.

Objectives

The aims of the Society are :-

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings are held at Clunies-Ross House, National Science Centre, 191 Royal Parade, Parkville, V., at 8 p.m. sharp on the second last Friday of even months, with the possible exception of the December meeting, which is held one week earlier. Lectures by guest speakers or Members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Annual Subscriptions for 1976

Ordinary Member	5.00	(Aust.)	8.00	(U.S.)
Student Members under 18	2.00	"	4.00	"
Associate Member	2.00	"	4.00	"

No separate Joining Fee is payable. Associate Members, resident at the same address as, and being immediate relatives of an Ordinary Member, do not automatically receive a separate copy of the Society's publications, but in all other respects rank as Ordinary Members.

Contributions to The "Victorian Entomologist"

The Society welcomes contribution of all papers, articles or notes for publication within the Journal. Contributions are not restricted to members, but should be responsible and original, and preferably typed, using double spacing. Statements and opinions expressed are the responsibility of the respective authors, and need not necessarily reflect the policies of the Society.

June 1976

The Victorian Entomologist.



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June, 1976

The Victorian Entomologist.

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Mr P. Carwardine, Mr F. Hallgarten, Mr R. Manskiw,
Dr. T. New, Mr O. Rogge.

DIARY of COMING EVENTS

June 18, 1976 General Meeting, Clunies Ross House
Presidential Address entitled "An Entomologists
visit to South Western Australia"

August 20, 1976 General Meeting, Clunies Ross House.
A practical night on ENTRECS., led by
Mr W.N.B. Quick.

October 22, 1976 General Meeting, Clunies Ross House.
Topic: Insect Photography by Mr Otto Rogge.

December 10, 1976 Members Christmas Night. Clunies Ross House.

Minutes of the General Meeting Held at Clunies Ross House,
191 Royal Parade Parkville, on 23rd. April 1976.

The Vice President Mr. Le Souëf chaired the meeting in the absence of the President.

There were 38 members and friends ink attendance.

Apologies were received from Mr D.F.Crosby, Mr V. Barrett and Mr & Mrs G. Burns.

Minutes of the previous meeting were confirmed and the correspondance was accepted, a report from the Treasurer was received.

Mr R. Condron gave a very interesting demonstration of tagging Wanderers.

The following displays were provided:-

A. Kinsella	Butterflies from around his garden.
R. Mc Mahon	Moths and Butterflies.
R. Davis	Moths and Butterflies, from the Parkdale area.
N. Haslin	Butterflies from East Gippsland- the pins used for mounting these specimens were prickly pear thorns.
Z. Le Souëf	Skippers including some from the collection of the late C. Wyatt

ooOoo

Minutes of the Committee Meeting held at Clunies Ross House on
1st. June 1976.

Correspondance: A letter of resignation from Mr J. Barnes was accepted with regret. The President undertook to write to Mr Barnes thanking him for his greatly appreciated efforts in establishing the societies journal, initially known as "Wings and Stings". Also letters from the President to the Land Conservation Council and the Minister for Conservation together with replies.

The President confirmed writting to six (6) companies with entomological interests requesting donations for the ENTRECS project.

New ideas were raised regarding the Journal, and it was decided to start a members question and answer column.

The Committee decided to set up a publications fund for use in any manner it felt desirable in relation to the Society's publication. It was envisaged that this could be used for any necessary equipment. Donations to a total of \$110 to the ENTRECS fund have been received to date.

GRID MAPS - will be brought along to the next meeting. Members will be able to order their requirements from the Society.

ooCoo

MEMBERSHIP LIST.

The Committee have decided that an up-to-date membership list should be published.

Members are therefore requested to list their interests and send this together with their telephone number to the Editor, before the end of July.

LETTER TO MINISTER REGARDING EAST GIPPSLAND NATIONAL

PARKS

The Honorable W. Borthwick,
Minister for Conservation,
240 Victoria Parade,
East Melbourne.

Dear Sir,

Land Conservation Council Recommendations
East Gippsland Report.

This society wishes to lodge strong protest to you regarding the above report in respect of the following aspects:

1. The disguised intention to cancel the two existing National Parks, Lind and Alfred, is noted. It is apparent that Alfred is to be downgraded to a Flora and Fauna Reserve, whilst Lind is to revert to Hardwood Production uses.

We take exception to any National Park being lost to the people of Victoria, bearing in mind the relatively small total of the state which has been set aside as National Parks, and notwithstanding the laudable increase resulting from the creation of Croajingolong and Tingaringy. It is our opinion that once an area has been set aside by legislation as a National Park, it must be kept inviolate in perpetuity, otherwise we have the situation where parks are created or destroyed at the whim of governments subject to pressure groups. Surely the reasons for initial reservation become stronger, not less, with time.

2. We also object to the way the report hides the proposed treatment of Alfred and Lind, particularly the latter. It is only by careful reading and study that these facts emerge. There is no direct indication or explanation.

3. Whilst accepting that there are many good points in the Council's report, we noted that low intensity grazing is proposed in the Tingaringy Park. We feel that this is most undesirable and should not be permitted in any National Park.

4. Finally, we object to the granting of any woodchip concession to any forest in East Gippsland because of the great and permanent

ecological damage which can and usually does result from the normal inadequate supervision of commercial interests. The deplorable results of the operations around Eden, N.S.W. are a typical example and a national disgrace.

We trust that the Government will give very careful consideration to these matters before the Report is accepted, and urge you to remember the wishes of a great ~~mass~~ of Victorians who do not to see any reduction of their natural resources, particularly the despoliation of forest areas for relatively short-term commercial gain.

Yours sincerely,

David F. Crosby.
PRESIDENT.

ooOoo

ADDITIONAL SIGHTINGS AND COLLECTIONS BY MEMBERS ON
BRISBANE RANGES EXCURSION, REPORTED IN LAST JOURNAL.

<i>Danaus plexippus</i>	<i>Delias aganippe</i>
<i>Heteronympha merope</i>	<i>Geitoneura klugii</i>
<i>Oreixenica lathoniella</i>	<i>Vanessa kershawi</i>
<i>Ogyris olane</i>	<i>Neolucia serpentata</i>
<i>Eurema smilax</i>	<i>Paropsis</i> beetles in all stages.
Limacodidae sp. larvae	
<i>Orgyia anartoides</i> larvae	
Ute theisa pulchelloides moths were very common.	
<i>Nyctemera amica</i> larvae (Cineraria moth)	

ooOoo

SOME LITTLE DESERT BUBRESTIDAE

by

J. C. Le Souff

Keith Hately and his Lowans of the Little Desert near Kiata in Victoria are known world wide through the news media to ornithologists naturalists and the general public. The habitat of this most interesting bird, famous for its" nesting mound, provides a wide diversity of flora with an equally wide variety of insects. In the field of Coleoptera, probably the Bubrestidae, the jewel beetles, contain the largest number of species, a Mecca for those interested in this group. It is difficult to imagine a more pleasant collecting area among the tea tree, broom bush and mallee in flower with a constant background of bird calls, a memory to brighten the dullest moment.

But much of the pleasure of visiting Kiata has always been the hospitality of Keith and Mary Hately, ready to help and advise at all times. From him is gleaned the state of the flora and fauna of the district together with snippets of the doings of those who have passed that way. Perhaps with his retirement from his duties as ranger of the Lowan Sanctuary, Keith might be able to find time to fully list the things that live in his district. This would, indeed, be a valuable addition to our distribution literature.

Keith recently asked for a list of the Bubrestidae I had taken in the Little Desert. Here is a list from both the M.W. Mules collection as well as those contained among our own specimens. In the short time available, because of an urgent request from our Editor for material, this list is but a basis to start from. There will be many additions from Keith's collection and others as well as the accumulation of many collectors in the National Museum.

<i>Melobasis costata</i>	<i>Stigmodera Vittata</i>
<i>Melobasis sexplagiata</i>	" <i>aenicornis</i>
<i>Stigmodera sanguinosa</i>	" <i>flavopicta</i>
" <i>florocincta</i>	" <i>iospilota</i>
" <i>bimaculata</i>	" <i>kekelli</i>
" <i>octomaculata</i>	" <i>grata</i>
" <i>xanthopilosa</i>	" <i>gibbicollis</i>
" <i>parallella</i>	" <i>castelnaudi</i>
" <i>octospilota</i>	" <i>thompsoni</i>
" <i>10 maculata</i>	" <i>rubricauda</i>
" <i>cincta</i>	" <i>simulata</i>

<i>Stigmodera cylindracea</i>		<i>Stigmodera amphichroa</i>	
" <i>varius</i>		" <i>mitchell</i>	X
" <i>pallidiventris</i>		" <i>sanguineventris</i>	X
" <i>ignia</i>		" <i>picta</i>	
" <i>kirbyi</i>		" <i>simulata</i>	
" <i>sagittaria</i>			

With the exception of those marked X taken by Keith Hately in January, all were collected in November by M.W. Mules, F.E. Wilson, and myself.

It is hoped that additions to this list can be published shortly.

ooOoo

A 1910 COLEOPTERA LIST FROM KEITH HATELY.

The collection of exotic specimens not available locally is as old as written history. The price lists of many fascinating objects to add to the study, museum or bug room turn up from time to time.

Keith Hately of Kiata recently came across just such a list. It is the 1910 pricelist of coleoptera among the diverse material available from W.F.F. Rosenberg, F.Z.S., F.E.S., Naturalist and Importer of exotic Collections. Included in Price List Number 13, dealing with Coleoptera, are several Australian species which might be of interest.

<i>Scaraphites titanicus.</i>	Sloane	- 5 shillings
<i>Anoplostherus laetus.</i>	Jord.	-50 shillings.
<i>Stigmodera rufa</i>		- 5 shillings
" <i>thoracia.</i>	End.	5 shillings.
<i>Calodema regalis</i>		-2 shillings.

"A collection of Carabidae in carton boxes, 800 species and about 3400 specimens including many Ceroglossus all classified and arranged for 400 shillings."

ooOoo

SALE OF EQUIPMENT.

The Committee has decided that there will be occasional sales of equipment to members.

The equipment to be sold may be donated to the Society and in such circumstances the whole of the proceeds will be accredited to the Publications Fund.

Other equipment sold will be subject to a donation of 20% of proceeds which will also benefit the Publications Fund.

To start the project, a number of setting boards have been donated by Mr W. N. D. Quick, and will be available at the June meeting.

ooOoo

MEMBERS QUERIES COLUMN.

Members are invited to send to the Editor any questions on entomological matters for which they would like answers. Reply will be obtained from suitable authorities and both the question and answer will be published in the Journal.

ooOoo

NOTE:

If your Journal has a red sticker on the cover you are unfinancial and you will not receive any further publications until such time as dues are paid.

ooOoo

Vol. 6: No. 4 August 1976.

THE
VICTORIAN ENTOMOLOGIST



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The aims of the Society are :-

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The Society's meetings are held at Clunies-Ross House, National Science Centre, 191 Royal Parade, Parkville, V., at 8 p.m. sharp on the second last Friday of even months, with the possible exception of the December meeting, which is held one week earlier. Lectures by guest speakers or Members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with like interests.

Annual Subscriptions for 1976

Ordinary Member	5.00 (Aust.)	8.00 (U.S.)
Student Members under 18	2.00 "	4.00 "
Associate Member	2.00 "	4.00 "

No separate Joining Fee is payable. Associate Members, resident at the same address as, and being immediate relatives of an Ordinary Member, do not automatically receive a separate copy of the Society's publications, but in all other respects rank as Ordinary Members.

Contributions to The "Victorian Entomologist"

The Society welcomes contribution of all papers, articles or notes for publication within the Journal. Contributions are not restricted to members, but should be responsible and original, and preferably typed, using double spacing. Statements and opinions expressed are the responsibility of the respective authors, and need not necessarily reflect the policies of the Society.



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August, 1976

The Victorian Entomologist

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ENTOMOLOGICAL SOCIETY OF VICTORIA

Office Bearers

President

Mr.J.C.La Souef, Godfrey Street, Blairgowrie, 3942. (059-88-8413)

Vice Presidents

Mr.D.Holmes, "Holmden", Red Hill, 3937.

Dr.T.R.New, Zoology Dept., La Trobe University, Bundoora, 3083.
(B.U. 479-2247) & (438-1051)

Hon. Secretary: Mr.A.F.Atkins, Unit 18, 17-19 Spring Road,
Springvale South, 3172.

Hon. Treasurer: Mr.B.Condron, 96 Shannon Street, Box Hill North,
3129. (B.H. 36-3976)

Hon.Editor: Mr.R.G.McMahon, 6 North Circular Road, Tullamarine,
3043. (338-4109)

Councillors: Mesdame J.Burns; Messrs.G.Burns, P.Carawardine,
R.Field, F.Hallgarten, R.Manskie, N.Quick
and O.Rogge.

DIARY OF COMING EVENTS IN 1976

August 20, 1976 General Meeting, Clunies Ross House.
A Practical Night on ENTRECS., led by
Mr.W.N.B.Quick.

October 22, 1976 General Meeting, Clunies Ross House.
Topic: Insect Photography by Mr. O.H.Rogge.

December 10, 1976 Members Christmas Night, Clunies Ross House.

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The Victorian Entomologist

Minutes of General Meeting held at Clunies-Ross House, 13th June, 1976.
Mr. D. Crosby opened the meeting, welcoming all present. The minutes of the last Annual General Meeting were received. The election of Office bearers then commenced:-

PRESIDENT

Nomination: Mr. J. C. Le Souëf

Proposed: Mr. P. Kelly

Seconded: Mr. D. Holmes Elected.

VICE-PRESIDENTS

Nomination: Mr. N. Quick - declined

Nomination: Dr. T. New

Proposed: Mr. J. Le Souëf

Seconded: Mr. B. Condron Elected

Nomination: Mr. D. Holmes

Proposed: Mr. D. Crosby

Seconded: Mr. R. Manskie Elected

SECRETARY

Nomination: Mr. A. Atkins

Proposed: Mr. J. Le Souëf

Seconded: Mr. J. Hallgarten Elected

TREASURER

Nomination: Mr. B. Condron

Proposed: Mr. D. Crosby

Seconded: Mr. D. Holmes Elected

EDITOR

Nomination: Mr. R. C. McMahon

Proposed: Mr. J. Le Souëf

Seconded: Mr. F. Hallgarten Elected

COUNCILLORS

- (1) Mr. N. Quick
- (2) Mr. P. Carwardine
- (3) Mr. F. Hallgarten
- (4) Mr. R. Manskie
- (5) Mrs. J. Burns
- (6) Mr. O. Rogge
- (7) Mr. G. Burns
- (8) Mr. R. Field

Proposed: Mr. D. Crosby

Seconded: Mr. B. Condron Elected

The President thanked the Committee who had helped him during the previous two years. Mr. J. Le Souëf moved a vote of thanks for the work the retiring President, Mr. D. Crosby had done. Mr. N. Quick moved a vote of thanks for the work done by the Mr. & Mrs. J. Caffin as Editors.

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General Meeting

Mr. D.F.Crosby welcomed all present and the new members, Mr. & Mrs. K.G.Rook. Apologies were received from Mr.P.Kelly, Mr.J.Caffan, Mr.G. Burns and Mrs.J.Burns.

The Minutes of the Committee Meeting held at Clunies-Ross House on 1st June, 1976.

'The Victorian Entomologist' Vol.6, No.3, Page 22 "...\$110 to ENTRECS..." should read, " \$110 to Publication Fund".

The Publication Fund is to be used for the eventual purchase of a duplicating machine (\$285 approximately) thereby making the Society self-sufficient. The money will be placed in a separate bank account. Donations will be accepted and 20% of the proceeds of the sale of sundry entomological items will also go to the fund.

Mrs.M.Le Souëf suggested that \$50 should be transferred from the Club Cheque Account to the Publications Account.

Proposed: Mrs.M.Le Souëf

Seconded: Mr.R.Manskie

After some discussion it was decided to let the motion stand until the next meeting.

Treasurer's Report: Credit \$191.90; 65 Financial Members.

The Society received a letter of resignation from Mr.J.Barnes with great regret. The Committee, albeit, decided to continue sending him copies of the Journal.

Correspondence:

Bayer Australia Limited

A.P.M.Forest LTD.- a donation of \$50 to ENTRECS scheme

Land Conservation Council

Ministry of Conservation

In relation to the Land Conservation Council (re Mallee), the Society was asked to put a submission concerning the extension of the extent Wilderness area to the Murrayville Track.

The proposed excursion to Monash University has been cancelled and it is planned to conduct an excursion to the Burnley Horticultural College.

Subscriptions are now overdue. A Membership List is in the process of being drawn up.. It was suggested that each member try to attract at least one new member to the Society over the next year.

THE PRESIDENTIAL ADDRESS.

Mr.D.Crosby's address to the Society was entitled, "An Entomologist's visit to South Western Australia". Slides were shown and butterflies that were caught on the trip were displayed.

The vote of thanks was moved by Mr.J.le Souëf.

Exhibits: David Holmes - *Anthela connexa*

A Further Note on 'Relaxing' Fluids.

W.N.B. Quick

Over the last two years or so, both within the 'Victorian Entomologist' and elsewhere, a number of recommendations for the safe, rapid softening of dried specimens have been offered. The very frequency and diversity of these recommendations suggests that there remains a great deal to be desired of most methods, which have ranged from the direct, and undoubtedly successful, injection of water into large specimens, to the use of crushed Camphora foliage, highly-perfumed soap solution, or straight, old-fashioned thymol in the conventional relaxing box, with or without the addition of chloroform.

In almost every instance, the presence of one or more of the 'essential oils' appeared to be involved. In addition to their recognised mild fungicidal action, it appeared that in varying degrees, their vapour possessed certain surfactant or wetting properties as it condensed on the insect tissues. It seemed likely that the addition of a little ethanol might further speed up or enhance this action.

A small sample of a water-dispersible mixture of high-volatility essential oils was made up, to which 10% of alcohol was added. This was diluted 1:10 with water for trial in a conventional relaxing box, and found to be very satisfactory. Smaller specimens, including Hesperiidae, were settable in 24 hours. Slight 'nipping' of thoraces to break internal adhesions certainly assists.

The odour of this preparation was so remarkably similar to that of 'Dettol' that the composition of this product was examined. In addition to a somewhat similar alcohol content (14.5%), it contains, according to the manufacturers, 4.8% chloroxylenol, a useful mould inhibitor. Tests of this product, again in a conventional relaxing box and using a 1:10 dilution, have been most successful, and the product has been found stable in the diluted condition for extended periods. It is, of course, essential to ensure that the liquid does not actually contact the specimens being relaxed, and that they are set as soon as sufficiently relaxed, but this applies to whatever method may be adopted. The ready availability of this compound alone is a great convenience.

Many insects which have been stored as dried specimens prior to setting tend to 'spring' disappointingly. This has been found to be readily overcome by the application of a very dilute solution of nitrocellulose to the thorax, either prior to, or immediately after removal from the setting board. Care should be taken that the solution does not contact styrofoam boards. A convenient source of nitrocellulose is "Tarzan's Grip" cement, which can be diluted with 15 to 20 parts of automotive grade lacquer thinners, and applied as droplets from an entomological pin. Several droplets may be necessary to fully 'wet' a thorax. Over-wetting should be avoided. At this dilution, treatment is not discernable when dry, even if the solution tends to run into the base of Lycaenid wings.

DEATH OF COLIN WYATT.

by J.C. Le Souef

A note in the February issue of the News of the Lepidopterists Society mentions that Colin Wyatt lost his life in an air crash recently. In view of the impact he had on a section of Australian Entomology, it would seem fitting that some comment be made on the circumstances surrounding his visit to Australia.

Early in 1942, shortly after his arrival in the country, he wrote to the Secretary of our Society seeking to exchange specimens. With the great difficulty of collecting, except by local tram or train, the offer was quickly taken up by F.E.(Ras) Wilson and M.W.(Bill) Mules while I soon followed suit.

Short of stature with a bristling untrained red moustache, he was a charming companion with a fund of anecdotes on collecting butterflies in various parts of the world. A camouflage officer attached to the British Army, he was a Cambridge graduate, former British ski champion and well known athlete.

Having established contact with us here in Melbourne, an animated correspondence followed with the exchange of many specimens. He was an observant collector in the field when there was time from his duties, restricting him mainly to the district of Sydney and the Blue Mountains.

On visits to Melbourne, he joined the weekly evening discussions with Ras and Bill and ourselves, and on one occasion he came with us to Eltham on a Sunday collecting trip. We last met him in 1945.

As might be imagined, we were 'electrified' when we heard the evening news on the 15th February, 1947, referring to the disappearance of a number of butterflies from the National Museum, Melbourne. So began the story which must surely be the most bizarre event in the modern history of entomology.

Early in January 1947, by a sheer fluke, it was noticed that a couple of specimens were missing from one of the drawers in the Lyell Collection. A glance at other drawers, showing many other blanks in the series, started quite a commotion in the normally quiet rooms that house Australia's insect collections. A telephone call from Mr. R.T.W. Pescott, the then Director of the National Museum, to Adelaide and Sydney, sent entomologists scurrying to their cabinets with drawers being inspected with much greater haste than is usual.

It was soon discovered that some 1600 specimens were missing including 800 from the Lyell Collection.

Investigations revealed that several packages registered as "scientific specimens" had been consigned to England in 1946 and that Colin Wyatt had left shortly afterwards.

The case drew world wide interest, even being featured in the BBC News, portion of the daily radio bulletins at the time. While the authorities were satisfied that the specimens found in England in the possession of Wyatt were those stolen in Australia. As the locality labels had been destroyed, actual proof was difficult. The final straw in this extraordinary case was the production of a photograph of the Adeluma urumelia type from the Roper River in the Northern Territory described by Norman B. Tindale. Missing scales on the wings tallied with those of the specimen providing the necessary proof that it was the actual specimen.

Despite this lapse, Wyatt continued with his insect work, writing at least one book, and restricting his comments on collecting in Australia to specimens taken in the wild. His name has appeared from time to time in the News of the Lepidopterists' Society. From the final note it will be seen that his charm had won him many friends in many parts of the world. This might serve to give a background to those yellow labels appearing in the museum butterfly drawers with "Wyatt Theft Collection" endorsed, denoting that these specimens were those eventually returned to Australia.

REFERENCES:

- 'No arrest of Butterfly theft suspect likely.' The Sun p.2, 17/2/47
- 'Butterfly specimens tracked to England'. The Argus, p.4, 17/2/47
- 'Discovery of butterfly loss was a fluke'. The Argus, 23/5/47
- "Collected" from museum cases. Butterfly stalker fined'. The Argus, 7/5/47

Vol. 6 : No. 5. October, 1976



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October, 1976.

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The reproduction of taxonomic papers within this Journal shall not constitute formal publication.

Original articles on any aspects of entomology are urgently required by the Editor.

How often have you seen these, or similar words, appear in our Journal ? If you have lost count, rest assured that you are not alone... The Editors have too ! Perhaps it is worth repeating the words 'on any aspect of entomology'. It is fully appreciated that there are now a number of journals competing for material, and that our members are not bound in any way regarding where they publish. In truth, while we are anxious for more 'academic' papers to appear, we do not solicit strictly taxonomic material, except in regard to such matters as distributional data, clinal variation and constructive research, etc.

The Editor is aware that many articles are 'being contemplated' for the Journal by a number of members, but that these appear to have been 'pigeon-holed' for too long. If you have an idea, a request, a suggestion, or perhaps the result of some research, remember that the Journal is your means of communication with others who share your interests. Remember too that it is not necessary for an author to be a financial member. Some of our most prolific non-members are first-rate writers !

ENTOMOLOGICAL SOCIETY of VICTORIA

Office Bearers

PRESIDENT:

Mr J.C. Le Souëf, Godfrey St., Blairgowrie, V. 3942. Telephone (059)-88-8413.

Vice-presidents:

Mr. D. Holmes, "Holmden", Red Hill, V. 3937.

Dr. T.R. New, Zoology Dept., LaTrobe University, Bundoora. V. 3083.
Phone 479-2247, A.H. 438-1051

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Hon. Treasurer: Mr R. Condron, 96 Shannon St., Box Hill North, V. 3129.
Phone 86-8976, A.H. 88-6300

Editor: Mr R.G. McMahon, 6 North Circular Rd., Tullamarine, V. 3043.
Phone 338-4109

Councillors: Mrs. J. Burns, Messrs. G. Burns, P. Carwardine, R. Field,
F. Hallgarten, R. Manskie, W.N.B. Quick, O. Rogge.

Asst. Editor this issue: W.N.B. Quick, 20 Alimar Rd., Glen Waverley, V. 3150

Diary of Coming Events

Next General Meeting:

Friday, October 22, 1976. 8 p.m. Clunies-Ross House.
A talk by Mr. R.H. Fisher, a well-known Adelaide entomologist, at present visiting Melbourne. See further note overleaf.

Sunday, November 7, 1976: Excursion to Rushworth district. For details refer to minutes of August General Meeting in this issue.

Sunday, November 21, 1976: Excursion to the Plant Research Institute, Burnley. For details refer to minutes of the August General Meeting in this issue.

Friday, December 10, 1976: General Meeting, Clunies-Ross House. 8 p.m. Soiree. Members' Night. Slides, brief talks. General. Coffee will be served as has been our custom in the past for this, our Christmas meeting. Ladies to bring a plate please.

Friday, February 18, 1977: General Meeting, Clunies-Ross House, 8 p.m. Talk by Mr O.H. Rogge. "Insect Photography"

October, 1976.

The 'Victorian Entomologist'

News in Brief.

Talk for October. Mr Otto Rogge has very kindly agreed to hold over his proposed talk on the photography of insects until the February, 1977 meeting in order that Mr R.H. Fisher, at present visiting Melbourne, can bring us up to date on what is happening in Adelaide. In particular we hope to hear something on the progress of his researches into the butterfly fauna of South Australia, and of his experiences in obtaining material for his forthcoming book on this subject. For most of the 'more senior' members, it will be a great pleasure to renew acquaintances.

Dr Arturs Neboiss

With very great pleasure we learned recently that Arturs, much better known to us as Arthur, has obtained his doctorate, the culmination of so much travelling and painstaking fieldwork, of countless hours of comparative examination, and endless frustrations. Perhaps 'culmination' is hardly the correct word, for the more that has been learned of the Trichoptera and their classification, the more it became apparent that much remained to be done on their early stages. While Arturs has only gained his doctorate, Australia has gained a first-rate authority on the group.

Mr Andrew Atkins

Andrew Atkins, whose address will be found within the list of Office Bearers of the Society, is now well-established in his new home -- the first of his own, where he will shortly be joined by his collection. While wishing him all the joys of home-ownership, his absence from North Rockhampton, from which base he did so much really productive collecting and observing, is regretted by all of us who used to break our journey to the far north at this town.

From Lismore, N.S.W.

Dr Grant Miller was recently in Melbourne for a very brief period, and managed a day's collecting. Dr Miller, who has an enviable record of seldom wasting a trip through lack of researching the probabilities, put a couple of members to the test in Melbourne's cold, but he didn't go home quite empty-handed. Whether it be intuition, luck, research, or the use of a 30-foot net-handle, Dr Miller is also credited with the discovery of a new Pseudodipsas in N.S.W., & the first Australian record of the butterfly Mimene atropatene (Hesperiidae).

List of Members.

Continuing difficulties in Journal production have caused the production of an up-to-date list of members to be delayed until the next issue. Optimistically, there will be a few more by that time anyway.

October, 1976.

The 'Victorian Entomologist'

R E P O R T S and N O T I C E S

COUNCIL MEETING: 20 August, 1976. Held at Clunies-Ross House.

Present: Messrs. D.F. Crosby, F. Hallgarten, O. Rogge, R. Manskie, R. Condron, D. Holmes, R. Field, Mr & Mrs. J.C. Le Souëf, Mr & Mrs. G. Burns.

Duplicating Machine: The President, Mr Le Souëf, commenced the meeting with the subject of acquiring the Society's own means of Journal production. Mr Crosby suggested that good, reconditioned duplicators, with adequate warranty, were readily available. It was agreed that further investigation, including the perusal of classified newspaper advertisements for low-cost secondhand duplicators, was needed.

Membership list: Mr Condron has agreed to draft a list of members of the Society, the list to include each member's entomological interest.

Editor: Mr Ray McMahon is at present overseas, and during his absence Mr J. Caffin, with assistance given by Mr N. Quick, will prepare the current (October) edition of the "Victorian Entomologist".

Library: Dr A. Neboiss has kindly provided space in the Entomology Department at the National Museum of Victoria for the Society's growing library -- at least until the Department has moved to its proposed new centre at Abbotsford. It was suggested that a rubber stamp be made to catalogue and identify our library material.

General Discussion: Mr P. Carwardine brought to Council's attention the fact that the present practise of holding Council Meetings on the same evenings as General Meetings might prove undesirable. It was agreed that the present format was experimental, and at this stage was more convenient for some of the members. Should special discussion of urgent matters be warranted, a Council Meeting would be held in the interim.

The Society has received from Shell Chemical Australia Ltd. a most generous contribution of two hundred and fifty (250) dollars towards the 'Entrees' programme.

Mr R. H. Fisher, a South Australian member of the Society, will be visiting Melbourne this month. Mr Fisher is well-known to lepidopterists throughout Australia, particularly for his research into the South Australian butterfly fauna.

Mr Le Souëf announced that some progress is being made towards the repeal of Customs Regulation 13 (a)

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GENERAL MEETING: 20 August, 1976. Held at Clunies-Ross House immediately following the Council Meeting of that date.

The meeting was chaired by Mr J.C. Le Souëf, who extended a sincere welcome to new members and visitors, amongst them Mr Andrew Calder, Mr Mark Hunting and Dr Peter Williams.

October, 1976.

The "Victorian Entomologist"

Reports & Notices. (Cont.)

Minutes of the Council Meeting held on 1 June 1976 were read and moved to acceptance by Mr D. Crosby, seconded by Mr. R. Condron.

Matters arising from the Minutes: It was proposed that the initial amount of fifty (50) dollars to be transferred from the Society's bank balance to the Publications fund should be increased. Mr Condron moved that this amount should be doubled, to one hundred (100) dollars. Mrs Le Souëf seconded the proposal. It was agreed that the immediate transfer of these funds was desirable to offset the expected inflation of publication costs. Mr N. Quick confirmed that paper was available for the remaining two issues of this Volume, and that subsequent supplies would be covered by existing funds.

Treasurer's Report: Credit Balance 330.01 (General); 116.90 (Publications Fund.); Membership: 73 Financial members.

Mrs. Le Souëf moved that the Treasurer's report be received. Mr N. Quick seconded.

Correspondence: Shell Chemical Australia Ltd., Cyanamid Corporation Ltd.

A letter was received from our Vice-President, Dr T. New, who is at present overseas, but hopes to be back to attend the October Council and General Meetings. Mr D. Crosby moved that the correspondence be received. Seconded by Mr. R. Condron.

General Business: Mr Le Souëf advised that no difficulty is foreseen in members obtaining 'permits to collect' in Victorian National Parks this season. Requests for permits may be written on behalf of this Society, and directed to the National Parks Authority.

Mrs. M. Le Souëf requested that this year's Christmas Members' Night be conducted with the traditional cordial atmosphere, with short talks, slides, displays, chit-chat, &c., with coffee supplied and "ladies to bring a plate".

Excursions: A collecting trip is organised for Sunday, 7 November to Rushworth. Members and friends are all welcome, and it is to be hoped that we may renew acquaintances with friends from the Bendigo area who attended the Society's last excursion to the same area. Those attending are to meet at Growlers Hill, near Rushworth, at 11 a.m. (Eastern Daylight Saving Time). Those without transport to meet at Bell Street -- Sydney Road intersection at 9.30 a.m. (E.S.S.T.). The quickest route to Rushworth is via the Hume Highway to Seymour, turning off to Nagambie and thence to Whroo.

Burnley Excursion: Members and friends are invited to attend an excursion to the Plant Research Institute, Swan Street, Burnley on Sunday, 21 November at 2.30 p.m. (E.S.S.T.). Parking is available in the Institute Grounds, next to the Horticultural College. It is anticipated that this excursion be as successful as the recent visit to La Trobe University.

Exhibits: A Display of World Butterflies. R. Condron.

A Selection of Anthelid and other Moths. D. Holmes.

Excursions.

Details of proposed excursions to Rushworth and to the Plant Research Institute at Burnley will be found on the previous page. In a personal communication, our President, Mr J.C. Le Souëf, has suggested that even early returns from the Entreecs programme (Entomological Records) should, if scanned, provide some indication of those areas where least collecting of any kind has been carried out, let alone on a more or less systematic basis.

On a similar theme, Mr Andrew Atkins recently mentioned to the writer that little collecting had been done through the Ballarat-Skipton area. Passing through this area at the time, there was seen to be plenty of scope for investigation, and a number of large tracts of timber and heathland, on varied terrain, are worthy of consideration by any members at a loss for new territory to explore. Members might have some ideas on the desirability of an excursion to this area, and comment at the October meeting.

Further west, and too distant for a single-day excursion, a number of very interesting areas exist along the Nhill-Goreoke Road, particularly towards the southern (Goreoke) end. If an early start is made, any members heading towards the Big Desert this year might find a diversion by this route a rewarding one. The Big Desert incidentally has suffered badly during the dry autumn and winter, and the Murrayville track has been badly churned up by apiarists in several sections.

N. Quick.

-ooOoo-

Ogyris abrota, Jalmenus icilius

--- and a request

by Andrew Atkins ♀

Early photographs of Melbourne show Red Gum woodlands scattered throughout many areas now occupied by the suburbs of Balwyn, Brunswick, Box Hill, Elsternwick, Windsor, Prahran, St. Kilda and Royal Park. Today, remnants of these stately woodlands can be traced by the presence of the massive trunks of Eucalyptus camaldulensis which still mark the old watercourses and flood plain hill-slopes that graced Melbourne before white settlement.

Perhaps these remaining trees were spared the settler's axe by their grandeur, but with them has survived Muellerina eucalyptoides, an important 'runner' Mistletoe parasite, and the larval foodplant of Ogyris abrota, the 'Scarce Mistletoe Blue'.

In August this year, I found a larva of this butterfly, together with attendant ants, in the corkwood of an orchard Cherry tree (Prunus sp.) growing near

♀ Unit 18, 17-19 Spring Road, Springvale South. V. 3172.

October, 1976.

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a Springvale roadside. Muellerina excalyptoides festooned this tree.

During winter in Melbourne the extent of the adaption of this mistletoe to introduced deciduous trees can be clearly seen, particularly in Toorak, Burnley, and Kew. The Oaks, Elms and Birches are popular hosts, and old, weathered trees might well provide suitable environments for the associated ants (Iridomyrmex and Crematogaster spp.). The ability of this mistletoe to adapt to deciduous trees might enable the Ogyris butterfly to survive future suburban land development schemes.

Whatever the future, this unusual and attractive butterfly is still relatively common in the Melbourne inner-suburbs. On a warm spring or autumn day (the butterfly is double-brooded) you can see, above the 30-metre leafy Red Gum canopy, the frantic flight of Ogyris abrota -- perhaps oblivious to the smog and commuter noise that surround the M.C.G. and Royal Botanic Gardens.

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Three first-instar larvae of another Lycaenid butterfly (Jalmenus icilius) recently appeared on the young leaves of a pot-grown Acacia pycnantha that I have at my home. The larvae undoubtedly had hatched from some eggs collected at Wartook the season before (see Vic. Ent. Vol. 6 No. 2), and placed with the plant. Within a week of their appearance, a trail of marauding Iridomyrmex ants were found making their way from my front garden through the kitchen window, across the floor, up the leg of the kitchen table, and were happily attending the Jalmenus larvae. The ants do not appear to be the same species of Iridomyrmex that attend the larvae at Wartook, but appear to be the same species attending Jalmenus evagoras near Melbourne. The J. icilius larvae have now pupated, and the ants expelled from the house by the judicious use of a pressure-pack insecticide ! Incidentally, the larval duration was only 5 weeks.

--- --- ---

I would be most interested to hear from any reader having direct evidence of any Trapezitine skipper butterfly having two broods in the one year in Victoria, (i.e. reared from an egg laid in spring, and producing an adult insect in autumn of the same year). Although several Victorian skippers have been recorded both in spring and autumn (e.g. Hesperilla flavesrens, Motasimha atralba), there is strong evidence suggesting that these records are seasonal fluctuations and extended or delayed emergence of the one annual brood. Can anyone help me with this question ?

-oo0oo-

Wandering Larvae

In January of this year, the writer caged a worn female Heteronympha cordace over a pot-grown Carex plant, and obtained a number of eggs which ultimately produced several larvae. When these appeared established, the covering sleeve was removed to facilitate photography, and the pot placed in the greenhouse. The larvae, of course, wandered and were lost. After some seven months, one has just turned up. It had succeeded in locating a pot-grown Gahnia sieberana in the greenhouse, and appears none the worse for its adventures, or the change in diet.

(N. Quick)

October, 1976.

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The Distribution of Oreixenica lathoniella herceus in Victoria.

Persuading members to extract data for this species from their collections has not, on the whole, been very successful. In fact it has proved rather like extracting blood from a stone -- not in the least encouraging. Little by little however sufficient data was accumulated to attempt some sort of atlas for the species. It was hoped that data from the collection of the National Museum of Victoria would compensate to a degree, but most of the specimens, while in very good condition, proved to be very old and accompanied by insufficiently accurate labels.

The 'atlas' in the form in which it is presented is of course a manually-assembled or plotted one. In the not too far distant future it should be possible to produce mechanical plots, not only for this species, but for most of the Butterflies and perhaps some Odonata. The symbols used, a hollow circle and a black dot, refer to date-segregation. The solid black symbols are post-1960 records, and the hollow symbol for earlier records which have not been superseded by more recent collections.

The grid seen on the atlas is composed of true squares. Each square represents one of the 10-minute grids of the 1:250,000 maps, but on a different projection in order to give strictly vertical lines of 'longitude', and enable plots to be done mechanically when necessary.

While there were -- and probably still are -- those who considered that the use of a finer grid resolution would be necessary or desirable to produce a meaningful 'atlas', the few areas covered by a multitude of records for this species were experimentally plotted on a 1-minute grid. As anticipated, these, almost without exception, merely produce a road map --- collectors don't wander far enough from their cars ! Even on the 10-minute grid used, it will be noticed how closely the distribution of the species, as far as it is recorded, parallels annual rainfall, not altitude. Of especial interest is the record from near Nelson in the extreme west of the state.

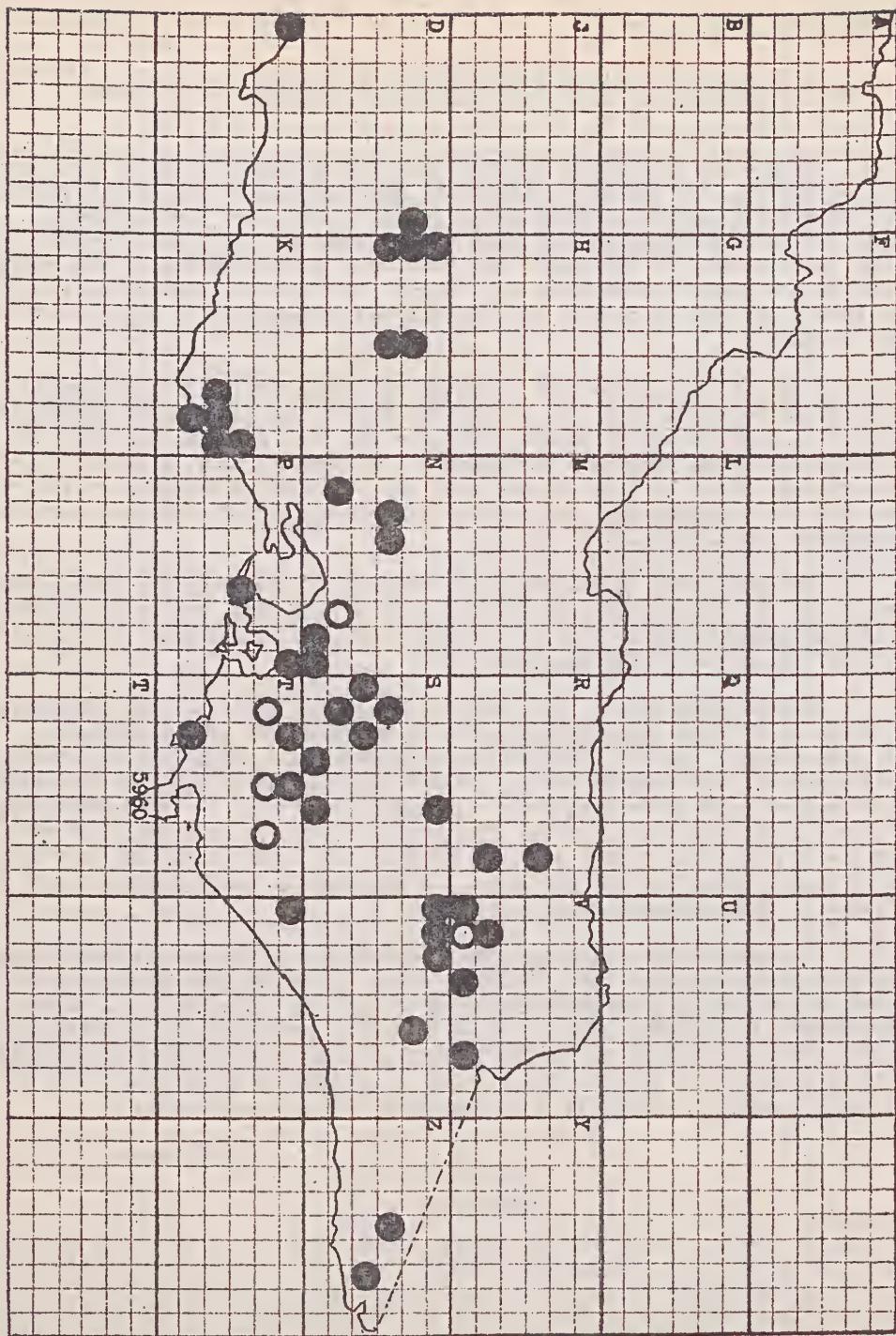
A particularly disappointing feature however is the noticeable lack of data from areas in which the species is known to exist. Extensive areas of South Gippsland, and most of East Gippsland are in this category. It is hard to believe that these areas have not been collected over, and it must be assumed that collectors have failed to obtain voucher-specimens of the more frequently encountered species, or have confined their excursions to periods prior to March during which month the butterfly is approaching its peak emergence.

W.N.B. Quick

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An Apology

In his haste to depart overseas, our editor omitted to disclose the whereabouts of our entire stock-in-trade --- covers, pre-prints, paper, envelopes and even our posting permit vanished ! If your journal is late, or looks a trifle strange, please forgive us.



Provisional Distribution of *Oreixenica lathoniella herceus* in Victoria.

Vol. 6: No. 6. December 1976.



ENTO
**THE
VICTORIAN ENTOMOLOGIST**



Journal of
The ENTOMOLOGICAL
SOCIETY of VICTORIA

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Entomological Society of Victoria

Membership

Any person with an interest in entomology shall be eligible for Ordinary Membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's journal, the "Victorian Entomologist". The Society encourages corporate membership of schools and study groups, of libraries and of academic staff.

Objectives

The aims of the Society are:-

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, record and disseminate knowledge of all Australian insect species,
- (c) to compile a comprehensive list of all known Victorian insect species, and
- (d) to bring together in a congenial and scientific atmosphere all persons interested in entomology.

Meetings

The Society's meetings are held at Clunies-Ross House, National Science Centre, 191 Royal Parade, Parkville, V., at 8 p.m. sharp on the second-last Friday of even months, with the possible exception of the December meeting, which may be held one week earlier. Lectures by guest speakers or members are a feature of most meetings, at which there is also ample opportunity for informal discussion between members with similar interests.

Annual Subscriptions for 1976

Ordinary Member	5.00	(Aust.)	8.00	(U.S.)
Student Member under 18	2.00	"	4.00	"
Associate Member	2.00	"	4.00	"

No separate Joining Fee is payable. Associate Members, resident at the same address as, and being the immediate relatives of an Ordinary Member, do not automatically receive a separate copy of the Society's publications, but in all other respects rank as Ordinary Members.

Contributions to The "Victorian Entomologist"

The Society welcomes contribution of all papers, articles or notes for publication within the journal. Contributions are not restricted to members, but should be responsible and original, and preferably typed, using double spacing. Statements and opinions expressed are the responsibility of the respective authors, and need not necessarily reflect the policies of the Society.



December, 1976.

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The reproduction of taxonomic papers within this Journal shall not constitute formal publication.

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R. Field, H. Hellgerton, R. Manskie, W. M. S. Quick,
and O. Rogge.

DIARY OF COMING EVENTS

Friday, 10th December, 1976 : General Meeting, Clunies-Ross House,
8 p.m. Soiree. Members' Night. Slides,
brief talks. General. Coffee will be
served as has been our custom in the
past for this, our Christmas meeting.
Ladies to bring a plate please, and
gentlemen not to arrive empty handed
also, please.

Friday, 10th February, 1977 : General Meeting, Clunies- Ross House,
8 p.m. Talk by Mr. O.H. Rogge on
"Insect Photography."

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REPORTS A.D. 1976 TOPIC 13

General Meeting:- 22nd October, 1976 -held at Clunies-Ross House.

Mr. J.C. Le Souëf, Chairman, cordially welcomed all members, visitors and friends. Among the visitors were Mr. Lauric Dunn and Kelvin Dunn and Professor Charles L. Remington. Mr. Dunn is from Dandenong and is interested in insect photography, whilst his son Kelvin has a keen interest in Lepidoptera. Professor Remington is an Honorary Life Member of the Lepidopterist's Society and a world authority on the melanism of moths. Whilst visiting Australia, Professor Remington conducted studies into insect behaviour, including the response of insects to solar eclipse. Professor Remington is from New Haven, Connecticut, U.S.A.

A special welcome was given to Sue Beattie, past Honorary Secretary of our Society.

Apologies were received from Mr. and Mrs. Gordon Burns.

The minutes of the previous General Meeting, published in the 'Victorian Entomologist', Volume 6, Number 4 were accepted by Mr. D. Crosby and seconded by Mr. D. Holmes, and carried.

Matters arising from the Minutes.

Christmas Meeting: As published in the previous magazine, the next meeting will be held on December 10th. Mr. Le Souëf suggested that at this informal meeting, it would help the ladies if the male folk were to contribute food also, such as biscuits to the supper.

Excursions: Mr. Peter Camwardine confirmed the preparations of the Rushworth excursion. A report of this successful collecting trip appears further on in this magazine. Mr. Camwardine proposed a plan for an excursion to the Ballarat/Skipton area. Details of this plan will be tabled at the next general meeting.

Correspondence: Correspondence was received from Karger Libri Scientific Booksellers of Switzerland; Ian Clunies-Ross Memorial Foundation; Ms. Jenny Chuck of the Mount Buffalo National Park; Dr. Arturs Mcboiss and Ms. Conjo Morris of the Australian Tourist Commission.

The correspondence was received as tabled and accepted by Mr. R. Condron and seconded by Mr. John Caffin, and carried.

Treasurer's Report: Mr. R. Condron reported a credit of \$19 dollars and 11 cents (including ENTRECS donations totalling \$50 dollars). The publication fund currently totalled \$16 dollars 90 cents. This report was accepted by Mr. P. Camwardine and seconded by Mr. D. Crosby, and carried.

ENTRECS: Mr. I. Quick has now available copies of Grid Reference 'print outs' of Oreixenica lithoniella hercules. The grid map is the first of a trial distribution record of Victorian Insects.

Reports and Notices continued.Insect Directory:

At present the Society is compiling a list of members and their entomological interests. There has been a good response to the issuing of Directory forms and the returns have been collated. Mr. R. Field reported that the Australian Entomological Society is compiling a similar directory of all professional and amateur entomologists in Australia, and that such a list of Victorian Entomologists could be forwarded for inclusion.

Little Desert:

Mr. Fred Wallgarten conveyed a report from one of our country members, Keith Hately, that the Little Desert had experienced a very dry winter this year.

Visiting Guest Speaker:

Mr. Le Souef introduced the Guest Speaker, Mr. Bob Fisher, who gave an excellent talk on the butterflies of South Australia. The talk was illustrated with several colour slides of juvenile stages and larval host plants. At the conclusion of the talk Mr. Le Souef called upon Mr. David Crosby to give a vote of thanks to Mr. Fisher.

Exhibits:

Mr. Andrew Kinsella - butterflies recently collected in Queensland.

Mr. J.C. Le Souef

and

Mrs. M. Le Souef

- rare Lycaenids collected in South Australia.

'The National Geographic' magazine, (Volume 150, number 2, August 1976) which features an article on the Monarch Butterfly (Wanderer) and the discovery of one of its 'over-wintering' havens in Mexico.

COLLECTING BUTTERFLIES WITH A CHAIN SAW.

by J.C. Le Souef

Because of local commitments, Mary and I were unable to take our usual two month safari to the far north during this last 1976 winter. Instead we had a very successful three week's trip to South Australia. We drove to Port Augusta and on to Wilpena Pound, returning by Broken Hill, Mundi-Mundi and Mildura.

Here are some notes on the species taken:

Ogyris Croesus: The only record of this butterfly from South Australia is the note of a larva seen by Charles McCubbin in 'Waterhouse and Common', but more recently Ross Field took a specimen on the wing. We found a number of larvae and pupae in a patch of mallee south of Wilpena. While some were found under bark, most were located close to or on the mistletoe itself.

Ogyris barnardi delphus: Several larvae were taken in borer holes on mistletoe clumps along the Whyalla Road but more were found in the Hasso-Bookaloo area which has extended their range considerably as was anticipated by both Tinable and common. One butterfly was seen on the wing and one freshly emerged pupa taken. All were in borer holes as far as six inches from the entrance.

Ogyris genovae splendida: This type was described in 1923 from a specimen taken by Tepper at Mount Painter in the Flinders Ranges. Common mentions that

"both sexes have been reared by M.W. Mules from near Cradock, South Australia, but the circumstances have not yet been recorded." This would seem an appropriate occasion to report those circumstances. In a letter dated 26th November 1942, Bill Mules told of his taking these specimens, the few in existence apart from the type.

"After chopping into several mallee batts to the hollow part with no results, although the sugar ants were there, I was getting the wind up but landed on two pupae just about dark. Next morning I finished up with eleven pupae. I'll tell, one or two damaged. It was the very devil of a job to get pupae, the trees are all hollow with big trunks and the grubs go into the ants' nests at ground level and up into the hollow tree and I'm telling you they take some getting...."

On our visit to Herkner last year, I tried out both bushman saw and axe on big mallee without much success. Obviously from Bill's experience in searching for these butterflies, the only thing to do at my age was to purchase a chain saw for the purpose. So, armed with modern pieces of equipment, we set out for the spot where Bill had taken his specimens. It was something of a thrill to see the axe cuts he had made in the mallee still there after all these years. How he would have appreciated a chain saw in those very hot November days! But it was something of an anti-climax when we walked some twenty yards to the nearest tree with mistletoe where Mary spotted ants in a hollow a couple of metres from the ground.

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In no time the hollow was opened and we had sufficient larvae for our purposes.

Ozzyris smarvallis meridionalis : Larvae and pupae of this wide-spread butterfly were taken at a number of places, some in borer holes & with O. b. delphis, while several near Boundary Bend were under the roots of a Delias harpalycus web.

Motus singha dirphis : Always expecting that there would be some skippers at Wilberforce Pound, we were particularly interested when Ross Field recorded having seen one flying at Mount John near the entrance to the Pound, none having been reported from there before. It was with some satisfaction that we found the larvae in numbers on a small species of Lycopodium rather unexpectedly, confirming Ross's sighting.

Trapsites luteus : Like O. g. splendidus, there were extremely few specimens known of this small skipper. As so often happens in our hobby of collecting insects, things are extremely rare until one happens to be in the right place at the right time. We found it hard to imagine that here was this rare species in quite some numbers in a most unlikely stretch of country near Peterborough.

The results of this short trip seem to emphasise that it is not really necessary to trawl around the country for months to add some knowledge to entomology and at the same time add some "good things" to the collection.

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REPORT OF RUSHWORTH EXCURSION

On Sunday the seventh of November several members and friends from Melbourne met with others from the Bendigo area for a day in the Rushworth environs.

It was a fine, warm day and we first went to Growler's Hill, which is on the southern side of the town. The hill had many Eucalyptus sideroxylon (Ironbark) trees with a lot of Anemone pendulum (Drooping Mistletoe) and a lot of this was within reaching distance. Cassia pyracantha (Golden Wattle), Cassytha (Dodder), and Calytrix tetragona (Fringe Myrtle) were also growing on the hill and the Calytrix flowers were attractive to beetles.

Due to the presence of the foodplants Anemone and Cassytha, several of the flies were seen flying in the area and captures of Ozzyris olane and Andalides hyacinthinus were made, and a couple of O. olane pupae were found under bark.

Other captures were Lucia limbaria, Delias harpalycus, grasshoppers and various beetles, mainly Paropsis, Cleridae and Curculiidae. Some day flying Agristidae moths, probably mistletoe feeders, were also caught.

Later we moved on to a hill just south of Wanlita cemetery where more beetles and various moth larvae were collected.

Peter Carwardine.

ENTOMOLOGICAL SOCIETY OF VICTORIA. MEMBERSHIP LIST, DECEMBER, 1976

Mr Neil W. Archbold 24 Wonga Rd. <u>RINGWOOD. V. 3134.</u>	Lepido., Insect palaeontology	O.
Mr Andrew Atkins 18/17-19 Spring Rd., <u>SPRINGVALE SOUTH. V. 3172.</u>	Lepido., taxon., palaeontology, gen. resrch.	O.
Australian Entomological Soc., c/- CSIRO Division of Entomology, P.O. Box 1700, <u>CANBERRA CITY. ACT. 2601.</u>		NC
Librarian, The Australian Museum, P.O. Box A285, <u>SYDNEY SOUTH. NSW. 2000.</u>		NC
Mr John Barnes, 42 Lucknow St., <u>MITCHAM. V. 3132.</u>		HON
Mistr. V.J. Barrett, 147 Canterbury Rd., <u>BLACKBURN SOUTH. V. 3130.</u>		J.
Mr Tony D. Bishop, 5 Warnes Rd., <u>MITCHAM. V. 3132.</u>	874-6119 Gen. Ent., Karyology (Ent.)	O.
Mr Gordon Burns, 3 Inglis St., <u>MORNINGTON. V. 3931.</u>	From Melb. 059-75-3730 Coleoptera	O.
Mrs Joy Burns, 3 Inglis St., <u>MORNINGTON. V. 3931.</u>	059-75-3730 Coleoptera	A.
Mr John Caffin, 63 Riddell Rd., <u>SUNBURY. V. 3429.</u>	744-1807 Gen. Ent.	O.
Mistr. Ashley Caffin, 63 Riddell Road, <u>SUNBURY. V. 3429.</u>	744-1807	A.
Mr Peter Carwardine, 2a Victoria Rd., <u>EAST MALVERN. V. 3144.</u>	211-8950 Lepido., Parasitic Dipt. & Hymeno.	O.

The Secretary, Ian Clunes-Ross Memorial Fn., 191 Royal Pde., <u>PARKVILLE. V. 3052.</u>	347-6077	XCH.
Mr R. Condron, 96 Shannon St., <u>BOX HILL NORTH. V. 3052.</u>	88-6300	0.
Mstr. S. Condron, 96 Shannon St., <u>BOX HILL NORTH.V. 3129</u>	Lepido., Coleo., & Gen. 88-6300	J.
Mstr. S. Condron, 96 Shannon St., <u>BOX HILL NORTH.V. 3129</u>	Lepido., Gen. Ent.	
Mr. Mark Connor, 34 Gloucester St., <u>RESERVOIR. V. 3073.</u>	47-1294	0.
Mr. Mark Connor, 34 Gloucester St., <u>RESERVOIR. V. 3073.</u>	Lepido., (coll., breed.)	
Mr Paul Cornford, Lot 30 Simpson Drive, <u>Nth DANDENONG. V.</u>		
Mr David F. Crosby 7 Russell St., <u>TOORAK. V. 3142.</u>	20-5377	0.
Mr David F. Crosby 7 Russell St., <u>TOORAK. V. 3142.</u>	Lepido., Distr. & Tax.	
Mr Greg Daniels, 98 Morris St., <u>FAIRFIELD. NSW. 2165.</u>		0.
Mr Greg Daniels, 98 Morris St., <u>FAIRFIELD. NSW. 2165.</u>	Diptera (Tax. Asilidae), Lepido.	
Mstr. Russell Davies, 1 Morris St., <u>PARKDALE. V. 3195.</u>	90-5640	
Mstr. Russell Davies, 1 Morris St., <u>PARKDALE. V. 3195.</u>	Gen. Ent.	
Mr M.R. Dean, P.O Box 21, <u>GREENSBOROUGH. V. 3088.</u>		0.
Mr M.R. Dean, P.O Box 21, <u>GREENSBOROUGH. V. 3088.</u>	Aquatics & aquatic phases.	
Mr G.W. Douglas, 36 Inverness Way, <u>NORTH BALWYN. V. 3104.</u>	85-6019	0.
Mr G.W. Douglas, 36 Inverness Way, <u>NORTH BALWYN. V. 3104.</u>	Diptera & Gen.	
Mr J.R. English, 302 Lower Heidelberg Rd., <u>EAST IVANHOE. V. 3079.</u>	49-4365	0.
Mr J.R. English, 302 Lower Heidelberg Rd., <u>EAST IVANHOE. V. 3079.</u>	Odonata	
Mr Ross Field, 51 Sandells Rd., <u>TECOMA. V. 3160.</u>	754-5586	0.
Mr Ross Field, 51 Sandells Rd., <u>TECOMA. V. 3160.</u>	Lepido., Gen.	
Mrs Julie Field, 51 Sandells Rd., <u>TECOMA. V. 3160.</u>	754-5586	A.
Mrs Julie Field, 51 Sandells Rd., <u>TECOMA. V. 3160.</u>	Lepido., Gen.	

Mr R.H. Fisher, 468 Goodwood Rd., <u>CUMBERLAND PARK S.A. 5041.</u>	Lepido.	O.
Mr Alan J. Frazer, 35 Kiwong St., <u>YOWIE BAY. NSW. 2228.</u>		O.
Mr T. Greaves, 71 Coranderrk St., Reid, <u>CANBERRA CITY. ACT. 2601.</u>		HON.
Mr F. Hallgarten, 6 Park St., <u>PASCOE VALE. V. 3044.</u>	379-1213 Coleo.	O.
Mr J. Hallgarten, 5/151 The Parade, <u>ASCOT VALE. V. 3032.</u>		O.
Mrs Norma Harrison, P.O. Box 110, <u>STANHOPE. V. 3623.</u>		
Mstr Nicholas Haslam, 60 Kooyong-Koot Road, <u>HAWTHORN. V. 3122.</u>	81-1748 Lepido.	J.
Mr Keith Hateley, <u>KIATA. V. 3415.</u>	Zool. & Gen. Ent., Lepido.	HON.
Mr David R. Holmes "Holmden" <u>RED HILL. V. 3937.</u>	World Lepido. & Coleo.	O.
Mrs Joyce Holmes "Holmden" <u>RED HILL. V. 3937.</u>		A.
Mr Mark Hunting, 29 Paloma St., <u>South OAKLEIGH. V. 3167.</u>	57-7174 Lepido., Coleo	O.
Mr Charles Huson 34 Orrong Cres., <u>NORTH CAULFIELD. V. 3161.</u>		O.
Mr J.F. Hutchinson Scoresby Horticultural Institute P.O. Box 174, <u>FERN TREE GULLY. V. 3156.</u>	Odonata	O.

Mr Adrian Kelly, 9 Foden St., <u>WEST BRUNSWICK. V. 3055.</u>	386-6463 Coleo.	J.
Mr Peter Kelly, 260 The Boulevard, <u>EAST IVANHOE. V. 3079.</u>	49-5765	O.
Mr Andrew Kinsella, 54 Renwick St., <u>GLEN IRIS. V. 3145.</u>	29-4113 Lepido.	J.
Mstr. Stephen Law, 24 Goodwood Cres., <u>TULLAMARINE. V. 3043.</u>	Gen. Ent.	J.
Mstr. Robert Lethlean 27 Fairbank Ave., <u>TULLAMARINE. V. 3043.</u>	Coleo.	J.
Mr J.C. Le Souef Godfrey Street, <u>BLAIRGOWRIE. V. 3942.</u>	From Melb. 059-88-8413 059-86-8971 Lepido., Gen. Ent.	HONL,
Mrs M. Le Souef Godfrey Street, <u>BLAIRGOWRIE. V. 3942.</u>	From Melb. 059-88-8413 059-86-8971 Lepido., Gen. Ent.	A.
Mr Nicholas Le Souef P.O. Box 2 <u>BLAIRGOWRIE. V. 3942.</u>	Lepido., Gen. Ent.	A. ..
The Library of N.S.W., Macquarie St., <u>SYDNEY. NSW. 2000.</u>		NC.
Mr C.W. McCubbin, 6 Manniche Ave., <u>BOX HILL NORTH. V. 3129.</u>	89-9171 Insect behaviour. Lepido.	O.
Mr S. McEvey, 5 Gissing St., <u>BLACKBURN SOUTH. V. 3130.</u>	878-4724 Lepido.	O.
Mr Ray McMahon, 6 North Circular Road, <u>TULLAMARINE. V. 3043.</u>	338-4109 Gen. Ent., Lepido.	O.
Mrs A. McMahon, 6 North Circular Rd., <u>TULLAMARINE. V. 3043.</u>	338-4109	A.

Mstr. R. McMahon 6 North Circular Road, <u>TULLAMARINE. V. 3043.</u>	338-4109	A.
Miss J. McMahon, 6 North Circular Rd., <u>TULLAMARINE. V. 3043.</u>	338-4109	A
Dr I.M. Mackerras, Division of Entomology, CSIRO. P.O. Box 1700, <u>CANBERRA CITY. ACT. 2601.</u>		O.
Mr R.C. Manskie, 8 Smith Rd., <u>SPRINGVALE NORTH. V. 3171.</u>	546-3673	O.
Miss E. Matheson, C/- Entomology Dept., National Museum, Russell St., <u>MELBOURNE. V. 3000.</u>	Lepido. (Lycaenidae) 663-4811, Ext. 283 (Day only)	O.
Mr A. May, <u>CANN RIVER. V. 3889.</u>	Lepido., Gen. Ent.	
Mr G.B. Monteith, Dept. of Entomology, University of Queensland, <u>ST. LUCIA. Q. 4067.</u>	Rainforest Insects Hemiptera, Coleo., Lepido.	O.
Mr D.E.A. Morton 25 Bella Vista Rd., <u>GLEN IRIS. V. 3146.</u>	25-3650	O.
Mr Malcolm Moss, P.O. Box 2807AA, <u>MELBOURNE. V. 3143.</u>	Lepido. (Hesp., Pap.)	
Mr M. S. Moulds, 14 Chisholm St., <u>GREENWICH. NSW. 2065.</u>	Odonata, Cicadidae, Lepido.	O.
National Library of Australia, Preparation Branch, <u>CANBERRA. ACT. 2600.</u>		NC.
Dr Arturs Neboiss, Dept. Entomology, National Museum, Russell St., <u>MELBOURNE. V. 3000.</u>	663-4811, Ext. 283 (Day only) 878-2781 (A.H.)	

Dr T.R. New, Zool. Dept., Latrobe Univ., <u>BUNDOORA. V. 3083.</u>	478-3122 Ext. 2247. Psoco., Neuro., paras. Hymeno., Ecol. & Taxon.	0.
Mr Brian O'Neill, 327 Francis St., <u>YARRAVILLE. V. 3013.</u>	314-6904.	0.
Dr Tony Owen, C/- Larundel Hospital, <u>BUNDOORA. V. 3083.</u>		0.
Mr J. Ozols, 43 Woodville St., <u>BALWYN NORTH. V. 3104.</u>		0.
Miss K. Pearce, C/- Dept. of Gen. & Human Var., La Trobe Univ., <u>BUNDOORA. V. 3083.</u>		0.
Administrative Assistant, Postal Services Division, Royal Mail House, <u>255 Bourke Street, MELBOURNE. V. 3000.</u>	60-0551	NC.
Mr D.E. Pryor, 1 Henry St., <u>Balwyn. V. 3103.</u>	83-2765	0.
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Mr W.N.B. Quick, 20 Alimara Rd., <u>GLEN WAVERLEY. V. 3150.</u>	5608145	0.
Mr A. McD. Riddell, 44 Francis St., <u>BLACKBURN. V. 3130.</u>	Lepido., Dist. & Speciation. 877-4408	0.
Mr Otto Rogge, 29 Ballard Ave., <u>COBURG. V. 3058.</u>	Gen. Ent. 55-6714 Micro biophotography Chrysidae (Hymeno.)	0.

MR K.G. Rook P.O. Box 97, <u>PAKINHAM, V. 3810.</u>	059-411-500 B/H 059-411-352 A/H Lepido. (coll./breed.), Gen.	0.
Mr Garry Sankowski, P.O. Box 175, <u>NORTH TAMBOURINE. Q. 4272.</u>	Lepido. Hosts & rearing .	0.
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Mr N.A. Stewart, 15 Wynne St., <u>WEST ROSEBUD. V. 3940.</u>		A.
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	Gen. Ent. (Micro-Hymenoptera)	
Mr R. Thompson, 3/5 Foote St., <u>ELWOOD. V. 3184.</u>	96-2541	0.
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Victorian State Library, Swanston St., <u>MELBOURNE. V. 3000.</u>		NC.
Mr John Wainer, 241 Dandenong Rd., <u>WINDSOR. V. 3181.</u>		0.
	Coleo., Gen. Ent.	
Miss L.M. White, 2 Grange Ave., <u>CANTERBURY. V. 3126.</u>		0.
Mr Clyde Wild, Entomology Dept., Univ. of Qld., <u>ST. LUCIA. Q. 4067.</u>	Lepido., Medical Ento. Coleo., Isoptera (inquilines).	0.

Mr W.F. Wilson,
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Additional Membership.

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The Membership List is as at November, 1976. Wherever known, members' telephone numbers, and members' interests are included. The classification of membership is also included in the right-hand column; eg. O= Ordinary Member, A= Associate Member, J= Junior or Student Member, HON or HONL = Honorary Life Member, NC = Non-contributing 'Member' and XCH = Exchanging 'Member'. It is anticipated that this list will be incorporated into the Australian Entomological Society Directory.



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